DOCUMENT RESUME

ED 046 330 HE 001 904

TITLE	Reforms in Yugoslavia. Case Studies on Innovation in Higher Education.
INSTITUTION	Organisation for Economic Cooperation and Development, Paris (France).
PUB DATE	70
NOTE	169p.
AVAILABLE FROM	OECD Publications Center, Suite 1305, 1750 Pennsylvania Ave., N.W., Washington D.C. 20006 ($4.25)
EDRS PRICE	EDRS Price MF-$0.65 HC-$6.58
DESCRIPTORS	Curriculum, *Educational Change, *Educational Innovation, Enrollment, *Foreign Countries, *Higher Education, Problems, Teaching
IDENTIFIERS	*Yugoslavia

ABSTRACT

This volume is one of a series of case studies on innovation in higher education published by the OECD. Part I, The General Context of Reform, briefly reviews the Yugoslav education system, and focuses on higher education to discuss the need for reform arising out of Yugoslavia's social and economic development plans, the excessive time required to complete studies, and the development of the higher education system. This is followed by a definition of the aims of the reforms and a brief outline of the history of the reform process. Part II, The Specific Problems of Innovation, discusses the past, present, and future positions of the following problems: coping with increased numbers, equality of opportunity, content and structure of studies, specialization of the institutions, organizational structures, institutional autonomy, recruitment and status of teachers, teaching and research, organization and methods of teaching, teacher-student relations, role and status of students, higher education and the outside world, evaluation and planning, and cost and financing. The Conclusions summarize the major findings and assess the future of higher education in Yugoslavia. (AF)

ED046330

CASE STUDIES
ON
INNOVATION IN HIGHER EDUCATION

reforms in YUGOSLAVIA

Report prepared by the
INSTITUTE FOR SOCIAL RESEARCH,
University of Zagreb

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

HE001 904

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The Organisation for Economic Co-operation and Development was set up under a Convention signed in Paris on 14th December 1960 by the Member countries of the Organisation for European Economic Co-operation and by Canada and the United States. This Convention provides that the OECD shall promote policies designed:

- *to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the world economy;*
- *to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development;*
- *to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.*

The legal personality possessed by the Organisation for European Economic Co-operation continues in the OECD which came into being on 30th September 1961.

The members of OECD are Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

FOREWORD

Whereas in the nineteen-fifties and the early sixties, the notion of "educational investment" attracted the greatest attention, it is now increasingly recognized that educational systems in general, and higher education in particular, cannot adequately respond to the needs of the economy and society unless they are subjected to more or less profound adaptations implying equally important innovations. Thus, in many ways, "innovation" becomes the key concept in the development of education of the present and coming decades.

Innovation is not of course required or advocated for its own sake, but should be understood as a means for fulfilling functions or resolving problems of an urgent nature and which have so far been neglected. The term "innovation" as it is used here, and as distinct from "change", implies therefore purposeful orientation.

The subject covers a very wide range of topics. Innovations in practically all educational domains can be considered: curriculum, teaching methods, internal structures, administration, equipment, etc. Obviously, no single study can cover more than a fraction of this vast area and an appropriate delimitation of the field of inquiry is indispensable. It was therefore decided that a set of case-studies on innovations as introduced by a representative sample of major overall reforms of higher education and in some of the newly created universities represented the most suitable approach to a study of this problem.

It does not follow that a new university is necessarily an innovating university, or that an overall reform need be, in all circumstances, of a radically innovating nature. Furthermore, many important innovations — of curricula or of teaching methods for example — can be and are being introduced in existing universities and without calling for the promulgation of an overall reform. The fact remains, however, that in most cases these are the two basic tools used to implement innovation in the system as a whole or in some of its parts.

It is in this context that the OECD Committee for Scientific and Technical Personnel decided to include in its current programme a number of case-studies concerning problems of innovation in higher education in Member countries.

The present volume is one of a series of case studies on innovation in higher education published by the Organisation. It expresses the views of the Institute of Social Research of the University of Zagreb and not necessarily those of the Organisation or the Yugoslav Government.

5 (no p. 6)

COMMON OUTLINE FOR THE PREPARATION OF CASE-STUDIES

The following general guidelines were given to the authors:

1. The case-studies should not be developed in terms of mere descriptions (of a particular reform or institution) or historical accounts; *they should be analytical and endeavour to present a critical examination,* the responsibility for which shall lie with the respective author(s).

2. The case-studies should represent a combination of an *institution- and problem-oriented approach* centred around the phenomenon of innovation. It is not the new institutions or reforms *per se* which should be reviewed and analysed and the case-studies should not engage in a theoretical discussion on problems of higher education, but emphasis should be put on the question of how the selected institutions or reforms innovate with regard to the particular problems of the common outline.

3. Each of the case-studies should deal with only a limited number of institutions or reforms, although in some cases a wider area may have to be covered, i.e. the inclusion of innovations taking place within other institutions, old or new. Such an extension would be justified in particular if the selected new institutions or reforms do not provide a sufficiently representative and significant picture of the innovating process as a whole.

4. Particular attention should be paid to innovations which have been in operation sufficiently long to provide the necessary elements for an adequate evaluation of their effectiveness. This evaluation should deal both with the intended and the unpredicted effects of the innovation. Where the time-factor does not allow for such evaluation, the analysis should concentrate on the declared or implicit intention of the innovators and also on any public discussions they may have generated.

5. An analysis should be made of the rationale behind all of the innovations and consideration given to such questions as to who were the initiators and what groups or factors provided support for or resistance to the innovations.

6. The common outline should be considered as a flexible framework; authors remain free to decide where, in view of the case considered and of its specific national or local context, the emphasis should lie, which points should be developed in depth and which should be discussed only briefly or omitted altogether. Many, if not all, of the points of the common outline are closely interconnected, possibly even overlapping. Given the

nature of the subject, these interconnections are inevitable and their analysis will throw light on the innovating process as a whole.

The following common outline was suggested to all authors of case-studies on innovation in higher education, as undertaken within the programme of OECD's Committee for Scientific and Technical Personnel (CSTP). This outline was drawn up at a meeting of the Secretariat of OECD and the authors of the first five case-studies in May 1967.

A. *INTRODUCTION*

Specific objectives, scope of study, methods and data used, limitations.

B. *GENERAL CONTEXT*

i) Short overall description of institutions or reforms selected for study;

ii) Their place in the global context of the society and of the education system of the country concerned (including considerations on the status of the new institutions in relation to older establishments, e.g. problems of "upward mobility" of institutions of higher education),

iii) Factors and circumstances which led to their creation or promulgation; initiators, protagonists and supporting groups; resistance and opposition.

C. *PROBLEM-ORIENTED ANALYSIS*

a. *Coping with Increased Numbers*

There can be no doubt that this is the most important problem in the development of almost all higher education systems. In the framework of the case-studies, questions of the following type should be examined:

- To what extent and in what sense was the promulgation of reform X – the creation of Institution(s) Y – directly motivated by the need to cope with the past or projected quantitative expansion of enrolments? (Was the pressure of numbers a primary or a secondary motive?) What statistical evidence can support the answer to this question and how has implementation of the reforms – or the building-up of the institution(s) – responded to original quantitative expectations?
- In case-studies on new institutions the problem of *size* should also be examined: what rationale, and other factors, determined the decision on the size of the new institution(s)? How is the problem of numbers being solved within the framework of the new institution(s) (e.g. subdivision of the institution in smaller more or less autonomous units as in the British collegiate or in the American cluster-college system)? What is the actual and projected rate of growth (slow or fast) of the new institution(s) and on what rationale is this growth rate based?
- In what way has the policy concerning the size of new institutions been translated into new architectural and building concepts?

b. *Equality of Opportunity*

The higher education systems of all OECD countries have to respond not only to the sheer pressure of numbers but also to the requirements of a more equal participation of the different social classes and population

groups, of a better geographic distribution (regional), and of a better participation according to sex.

- To what extent do the analysed institutions or reforms provide new answers to these preoccupations? More specifically, have the reforms or the institutions under review been innovative with regard to admission requirements (problem of access to higher education), with respect to scholarship and other student welfare policies? Have any new measures been introduced facilitating not only access of students from under-privileged classes or population groups to higher education but also strengthening the chances of success of these students? To what extent does the location of new institutions respond to requirements of a better geographic distribution of post-secondary establishments (problems of the " university map ")?

c. *Content and Structure of Studies, Interdisciplinary Approach*

Problems falling under this heading are widely discussed, and new solutions are being introduced, in all OECD countries. In a certain sense it might even be said that the most striking features of new institutions of higher learning, i.e. the most apparent deviations from the traditional pattern, lie in this field: creation of interdisciplinary programmes, combined degrees; obligation or possibility for students to take courses belonging to different disciplines (major, minor or supporting subjects); obligation or possibility for teachers to belong to two or more constituent units of the University, etc.

- What is the rationale behind this type of innovation introduced by the new institution(s) or reform(s)? How were the programme, plan and length of studies changed (curriculum reform)? Has a new pattern of examinations (degrees) been developed? Does the available experience show that original expectations could be fulfilled? What difficulties arose and/or how was the arrangement transformed under the influence of unforeseen factors and circumstances?
- Did the new curricula and the new structures of studies bring about new architectural and building concepts? Did they have an influence on a better utilization of buildings?

d. *Specialization of Institutions of Higher Learning*

The question is more and more widely raised as to whether a single institution of higher learning can offer courses in more than a few subject areas. In particular, many of the new universities try to specialize in a limited number of areas. At the level of higher education systems as a whole, the issue is not only specialization by field of study but differentiation according to levels, geographic location and functions (e.g. creation of short cycle higher education).

- Has such a type of specialization taken place in the institutions under review and, if so, what were the criteria for the choices made? Is there any relation between a particular specialization and the geographic location of a given new institution?
- Do the analysed overall reforms contain any significant proposals such as the creation or strengthening of a new type of higher education

functionally differentiated from the traditional types, and what were the rationale and the factors which led to the solution adopted?

e. *Organisational Structures, Institutional Autonomy, Administration and Management*

In many countries the existing organisational structures (e.g. division of universities into faculties) are considered as totally inadequate and innovations in this field, together with those concerning the inter-disciplinary approach, appear usually as the most revolutionary aspect of the new institutions. Related problems concern responsibilities of members of the academic staff, administration and management of institutions of higher learning as well as problems of institutional autonomy, of academic freedom and of State-University relations.

- What new organisational structures have been introduced (horizontal and vertical units and their interrelations)? What is the degree of organisational autonomy of the new units (on the one hand, internally, within the framework of the institution, and, on the other externally, in relation to the outside world?
- What new approaches, if any, have the new institutions or the overall reforms developed towards the perennial question of university autonomy? Have the new institutions or reforms developed some new type of relationship between State and University, and if so, what were the consequences in the field of co-ordination of the new institutions with the rest of the higher education system? Have the new teaching methods or the new content of studies in some way modified the traditional concept of individual academic freedom ("Lerfreiheit")?
- How have the roles (authority, rights and responsibilities) of the various categories of the academic staff, (heads of department, chair holders, middle and junior staff level) been modified as compared with the traditional patterns? Can one speak of a new role of the faculty in the decision-making process in general and in the process of innovation in particular?
- What new administrative mechanisms have been set up? Are new scientific methods of administration (e.g. computer techniques) being extensively used?

f. *Recruitment and Status of Teachers*

For many countries the lack of qualified teachers represents the major bottleneck in the present and future development of higher education. A solution to this problem might depend, to a large extent, on better recruitment policies, improved salary conditions and career prospects. A related issue arises in connection with the instructional effectiveness of university teachers, and the criteria used for the appointment of such teachers.

- Have the institutions or reforms under review introduced new solutions in this field? Are candidates for teaching jobs sought outside the sectors which were traditionally supplying academic personnel (e.g. in industry)? Are conditions of employment of foreign teachers made easier? Have minimum academic requirements for employment (degrees, publications) changed and have criteria of teaching performance been adopted in the selection of staff?

g. *Teaching and Research*

One of the major criticisms made of higher education in most of the OECD Member countries refers to the balance between its teaching and research functions, to insufficient linkages between the two, to inappropriate conditions in which one or the other (if not both) have to be pursued and, implicitly or explicitly, to the connected problems of relations between under-graduate and graduate studies. Innovations in this area may pertain to numerous aspects and organisational components of the higher education system.

– How, in general, is the relationship between teaching and research and between under-graduate and graduate studies envisaged in the new institutions or reforms? What practical measures have been taken in the field of curriculum and degree requirements to implement these general principles? What arrangements have been made with a view to integrating (or differentiating) the teaching and research functions of the academic staff? If, in the older establishments major differences exist in prestige and working conditions between those occupied mainly in teaching (of under-graduates) and those in research (or work with graduates), have the new institution(s) or reform(s) changed this situation? How do enrolment growth rates (actual and projected) at the under-graduate level compare with those at the graduate level? Have any special arrangements been made to promote fundamental research as distinct from applied research? Is there any special effort being made with a view to training research workers ("teaching of research")? If the institutions and reforms under review are fostering research contracts with outside bodies (government, industry), what are the overall effects of this new relationship which is thus being built into higher education establishments?

h. *Organisation and Methods of Teaching; Teacher-Student relations*

It is very often said that one of the major weaknesses in present higher education systems is the lack of contact between professor and student, in other words, the depersonalization of higher education. Many of the innovations introduced (both by the new institutions and by overall reforms) are intended to remedy this situation. The most obvious solution is to improve the teacher/student ratio, but this, for financial and other reasons, is also the most difficult solution and, in any case, only a partial one. Much will depend on the teaching methods: "cours magistraux", team teaching, tutorial system, seminar and small group work, utilization of new teaching media, the amount of time which the different categories of teachers actually devote to students both within and outside the class periods or formal "office hours", etc.

– To what extent does the teacher/student ratio (overall and by field of study) in the new institutions differ from the ratios in the older establishments? Can a more sophisticated indicator be established, comparing, for the traditional and new institutions, the size of classes, the length of time during which each student is in contact with his teachers, the number of courses (seminars, lectures), given by the various categories of teachers ("density of teaching")? What is the relative importance of formal and informal, organised and unorganised, contact between student and teacher?

- Which of the above-mentioned teaching methods (large-class lectures, seminars, tutorials, etc.) or what combination are given emphasis? Which method or combination is considered most and least effective according to fields and levels of study (optimum size of class)? What role has been assigned to new teaching media? What is the new or proposed structure of the teaching staff (number in senior, middle and junior level categories and their respective roles with regard to students)? What are the new arrangements with respect to student orientation and counselling?
- What physical facilities have been provided to facilitate closer contacts between teachers and students?

i. *Role and Status of Students in the Academic Community*

Two types of problems should be raised under this point: *a*) those concerning the participation of students in the decision-making process within their respective universities or other institutions of higher education, and *b*) those concerning their living conditions, residence, and material welfare in general.

- What innovations concerning these fields have been introduced in the institutions or reforms analysed? Are the new institutions deviating from the traditional pattern, for example in respect to the role of students in the determination of the structure and content of programmes or of admission requirement? What mechanisms are being used to ensure increased student participation in the decision-making process? Did these innovations have any important effect on the phenomenon of "students' unrest"?
- To what extent do students participate in the innovation process itself; by what means?
- What was the rationale for deciding that the institutions under review should be resident or non-resident establishments, with or without a campus? Why has a particular type of residence (e.g. collegiate versus simple hall of residence) been adopted. How has the relation between resident and non-resident students been solved? How have the connected architectural and building problems been solved? What other innovations have been introduced concerning the material conditions of students (part-time employment, loans)?

j. *Higher Education and the Outside World*

In many countries a major complaint about higher education is the latter's relative isolation from the outside economy and society in general, and from industry in particular. Modern higher education establishments should in this respect fulfil, it is said, several types of functions all of which, in a certain sense, may be grouped under the heading "Public Service Concept". This implies a more active role in such areas as adult and continuing education, extension services, research contracts with government and industry, etc. But successful innovations in these fields might often require a radical change in the prevailing idea of the university, i.e. in the concept of its place and role within society.

- Do the new institutions or reforms embody a new concept of the functions of higher education within society?

- What contacts have been established between the new institutions of higher learning and the surrounding community? Which groups and sectors of the economy and society appeared as most (least) willing to enter into co-operative arrangements with the new institutions? To what extent and in what way could the new institutions find support (e.g. research grants, scholarships, equipment) in industry and, *vice versa,* what new services are they providing for industrial firms (e.g. refresher courses)?
- Has a new approach to adult and continuing education been developed?
- Have extended linkages with the outside world led to any unforeseen problems and difficulties? Did the creation of the new institutions have a latent stimulating effect on the surrounding community (not directly related to the organised and institutional contacts, e.g. creation of various new services, shops, cultural activities, entertainment)?

k. *Evaluation and Planning*

Need for improvement in these areas is felt very widely. New techniques are being developed (e.g. systems analysis) and special mechanisms are being built into new institutions or reformed systems (planning and/or evaluation units) in order to fulfil this need.

- What are the respective solutions implemented in the institutions or reforms under review? Is self-evaluation and self-study considered as an integral part of the administration and planning of the new institutions? What difficulties had or have to be overcome in order to strengthen the planning process (at the level of the institutions or of the system)? What measures, if any, have been taken to ensure compatibility between institutional and national planning objectives?

l. *Cost and Financing*

Most if not all of the innovations analysed have cost and financial implications which should be examined. This can be done either in connection with almost all the eleven preceding problem areas or under a special separate heading. If the former solution is adopted, there should be a summing-up section on this point. The types of questions to be raised in both instances are as follows:

- Have the different innovations generated additional or increased expenditure or, on the contrary, have they produced savings or decreased unit costs? Have they made new financial resources available (e.g. innovations in the field of university-industry relations)? How do the overall costs and financing mechanisms of the new institutions compare with those of the older establishments?

D. *CONCLUSION*

Summary of main findings of the study with particular reference to the most important innovations encountered.

CONTENTS

INTRODUCTION 19

Part One
THE GENERAL CONTEXT OF REFORM

I. The Education System in Yugoslavia 23
II. The Need for Reform 29
III. Aims of the Reforms 33
IV. History of the Reforms 35

Part Two
SPECIFIC PROBLEMS OF INNOVATION

I. Numbers 43
II. Equality of Opportunity 61
III. Content and Structure of Study 81
IV. Specialization 97
V. Organisational Structures: Institutional Autonomy 101
VI. Recruitment and Status of Teachers 105
VII. Teaching and Research 113
VIII. Organisation and Methods of Teaching; Teacher-Student Relations 121
IX. Role and Status of Students 125
X. Higher Education and the Outside World 135
XI. Evaluation and Planning 143
XII. Cost and Financing 147

CONCLUSIONS 163

References 167

Annexes

I. Statistical Tables 173
II. Extracts from the Law on Higher Education, 1960 183

LIST OF TABLES

1. Planned increase in gross social product and national income, 1957-1961 . . . 29
2. Total investments, productive and non-productive investments, 1957-1961 . . . 30
3. Total institutions of higher education, 1957-1967 44
4. Faculties, 1957-1967 45
5. Colleges, 1957-1967 46
6. Two-Year Post-secondary Schools, 1957-1967 47
7. Indexes of the number of institutions, 1957-1967 48
8. Increase in the number of higher education institutions, enrolments and teaching staff, 1958-1962 48
9. Percentage increases in Faculties and Two-Year Post-secondary Schools, 1958-59/1961-62 49
10. Number of institutions of higher education in Yugoslavia and in the Federated Republics, 1958-1966 49
11. Index of population per institution of higher education, 1957-58/1965-66 . . . 50
12. Number of graduates, 1958-1961 51
13. Percentage of graduates to total enrolments, 1957-1961 51
14. Percentage of first-year students moving up to second year, 1958-1961 51
15. Part-time enrolment trends, 1956-1962 52
16. Part-time enrolment trends, Two-Year Post-secondary Schools, 1959-1962 . . . 52
17. Current expenditure, 1958-1961 53
18. Capital expenditure, 1958-1961 53
19. Enrolment indexes, 1957-1967 53
20. First-year enrolment indexes, 1957-1967 54
21. Indexes of teaching and auxiliary staff, 1957-1967 54
22. Student/teacher ratios, 1957-1967 55
23. Indexes of graduation, 1962-1966 56
24. Percentage of graduates to total enrolments, 1962-1966 56
25. Index of average length of study, 1962-1965 57
26. Actual length of study, end-1965 57
27. Regional origin of students in relation to national income, 1961-62 61
28. Changes in the social origin of full-time students, 1938-39/1960-61 62
29. Students from working-class families, Zagreb University, 1959-60 63
30. First-year students coming from grammar schools, 1957-1966 64
31. Breakdown of students by sex, 1956-1966 67
32. Percentage of women in total enrolments by Faculties, 1956-57 — 1965-66 . . . 68
33. Full-time first-year students without normally prescribed qualifications, by educational background, 1958-59 — 1965-66 70
34. Index of part-time enrolments in relation to total first-year enrolments, 1957-1967 75
35. Part-time enrolments, 1962-63 — 1966-67 76
36. Part-time enrolments by category of institutions, 1957-1967 77
37. Number and type of Two-Year Post-secondary Schools, 1956-57/1966-67 . . . 86
38. Graduates from Two-Year Post-secondary Schools, 1958-1966 87
39. Post-graduate enrolments, 1962-1965 91
40. Teachers and auxiliary staff, 1962-1967 106
41. Full-time and part-time teachers and auxiliary teaching staff, 1957-1967 106
42. Indexes of teachers and auxiliary teaching staff, 1957-58/1966-67 107

43. Full-time teachers and auxiliary teaching staff by academic grades, 1961-62 . . 107
44. Full-time teachers and auxiliary teaching staff, Zagreb University, 1966 108
45. Breakdown of teachers, Zagreb University, 1966 108
46. Percentage of income from other sources, University of Zagreb, 1965 139
47. Percentage of income from other sources, University of Zagreb, 1965, by Faculties and Colleges 139
48. Percentage of part-time higher education students by age-group, 1964-65 . . . 140
49. Percentage of national income spent on education, 1961-1966 148
50. Total educational expenditure, 1961-1966 148
51. Expenditure on higher education as percentage of total educational expenditure, 1961-66 149
52. Cost per student, 1962-1966 149
53. Proportion of budget and other financing, 1963-1965 150
54. Structure of total educational expenditure, 1955-1964 151
55. Classroom situation, 1957-58 153
56. The share of educational investment in total investments, 1961-1964 154

STATISTICAL ANNEX

A.1 Trend of higher education, 1957-1967 173
A.2 Teaching staff, 1957-1967 174
A.3 First-year enrolments, 1957-1967 175
A.4 Graduates, 1957-1967 176
A.5 Numbers of different types of institutions of higher education, 1957-58/1966-67 177
A.6 Characterictic data – indexes, 1957-58/1966-67 178
Diagram A.1 1957-58 180
Diagram A.2 1962-63 181
Diagram A.3 1966-67 182

17 (no p. 18)

INTRODUCTION

Scope of the report

The following case study deals with reforms in higher education in Yugoslavia between 1957 and 1967. It has been prepared as part of the general survey sponsored by the Committee for Scientific and Technical Personnel of the Organisation for Economic Co-operation and Development, and every effort has been made to conform to the agreed common outline for the case studies included in that survey, while at the same time bringing out the special features of Yugoslav social and economic life, and therefore of the Yugoslav education system, which may not be familiar to all readers.

Innovation, a continuing process

For reasons of practical convenience, the year 1967 has been taken as a terminus, but it is important to stress at the outset that innovation in education is regarded in Yugoslavia, as it is in other countries, as a continuing process, and that the reform of higher education is not looked upon as being completed. Higher education must naturally keep pace with the country's social and economic development, and it will be seen in Part One in connection with the history of the reforms that their sponsors were guided from the start by this general principle. Since the social and economic development of the country was extremely dynamic, the development of higher education could not be allowed to lag behind.

Seen in this light, as a process of integrating higher education into the country's social and economic development, the reforms can be said to have been continuous ever since the first steps were taken in 1958. New problems are constantly calling for new solutions. Naturally, these solutions do not depart from the initial principles of reform; they are designed merely to adapt higher education more effectively to the new social and economic circumstances. The reform of higher education in Yugoslavia is thus still going on, under changing social conditions, which call for new legislation such as the Education Act, 1964, and its amendments in 1965, and the Scientific Research Act, 1965. The problems have quite recently been discussed at a conference in Sarajevo on the implementation of higher education reforms, and another at Niš, organised by the Federation of Yugoslav Universities. A recent instance of this continuing interest in higher education is the "Proposals for the Development and Improvement of the Education System in Yugoslavia" (1967) covering the period up to 1970, in which considerable attention is paid to the problems of higher education.

Layout of the report

Following the present brief Introduction, Part One, ***The General Context of Reform,*** opens with a brief review of the Yugoslav Education System, especially of higher education, and goes on to discuss the need for reform arising out of Yugoslavia's social and economic development plans, the excessive time required to complete studies and the development of the higher education system. This is followed by a definition of the aims of the reforms and a brief outline of the history of the reform process. The process being thus set in its general context, Part Two of the report then analyses the ***Specific Problems of Innovation,*** following the sequence of topics suggested in the common outline. In this central (and longest) part of the report, the opportunity is taken to review the past, present and prospective future position of each of the major problems discussed. The Report ends with the ***Conclusions,*** summarizing the main findings, and endeavouring to assess the future of higher education in Yugoslavia.

Part One

THE GENERAL CONTEXT OF REFORM

21 (no p. 22)

I

THE EDUCATION SYSTEM IN YUGOSLAVIA

Primary and Secondary education

Primary schooling for eight years is compulsory for all children between the ages of 7 and 15. Primary schooling is uniform throughout Yugoslavia. Alongside the compulsory primary schools providing a general education, there are some primary schools which provide a grounding in special subjects.

Pupils who continue their schooling after the end of the compulsory period have the following range of alternatives:

General Secondary Schools
Classical Secondary Schools
Teacher Training Schools
Technical and Vocational Training Schools
Art Schools
Trade Training Schools.

The *General Secondary Schools* ("Gymnasia" or Grammar Schools) provide uniform four-year courses. At the end of the first year there is an option between two streams, social sciences and languages or natural sciences and mathematics. In the *Classical Gymnasia* emphasis is placed on social sciences and languages from the start, while the *Teacher Training Gymnasia,* as their name implies, concentrate on the training of prospective teachers.

The *Technical and Vocational Training Schools* provide academic, rather than practical, training for various specific occupations. The vocational training is combined with continued general education. The occupations covered include industry, mining, architecture, forestry, business and commerce, medical auxiliaries, etc. The courses last four years. They are open to primary school leavers and to skilled workers who have already acquired some practical experience and who may complete the course in two years under a special programme. Where there are more candidates than places, admission is by competitive examination. Pupils successfully completing the course are awarded the appropriate Trade Certificate.

The Art Schools provide secondary education in music, ballet, theatre and applied arts. Candidates for admission must have completed their primary schooling and must pass an entrance examination. In exceptional

cases, gifted applicants who have not completed their full primary schooling may be admitted, but cannot be awarded the Art School Certificate unless they simultaneously complete the eight years' primary education.

The *Trade Training Schools* are designed to train skilled workers. The length of studies varies for different trades, but is usually three years. In addition to theoretical vocational training, practical training is given in workshops belonging to the school or to an appropriate enterprise. These schools take primary school leavers, and also, for some trades, pupils who have not completed their primary schooling.

Higher education

The 1960 General Law on Higher Education (hereinafter, for the sake of convenience, called "*the 1960 Act*") recognizes the following "*institutions of higher education*":

Two-year Post-secondary Schools
Art Academies
Colleges
Faculties.

It will be noted at once that this list does not include the *University* as such. The relations between Universities and other institutions of higher education are considered in detail in Part Two, Chapter V below (Organisational structures: institutional autonomy) but a fairly full explanation is needed at this stage for complete understanding of what follows.

The whole position is governed by the provisions of the new Yugoslav Constitution, to which all legislation in the Federation and the Federated Republics must now conform. The basic principles of the new Constitution may be very briefly summarized as *self-government,* exercised in two different spheres through two parallel but inter-related sets of institutions: the *socio-political institutions* dealing with social and political life – the Federated Republics, Territories, Districts, Municipalities, Communes, etc. and *the working institutions* dealing with economic life such as industrial and business organisations or enterprises, etc. Each recognized socio-political or working institution is autonomous and self-governing within its own sphere, subject to the General Law of Yugoslavia, the specific laws of the relevant Republic and its own Statutes. Higher education is recognized as a "working" (and not as a socio-political) activity, and the autonomous working institutions in this sphere are the four groups listed above. The 1960 Act, however, expressly safeguards the right of the Universities and independent scientific institutions to provide certain forms of higher education.*

Higher education is open on equal terms to all Yugoslav citizens (or foreigners) with the appropriate qualifications to enable them to profit from it. The full academic and scientific freedom of higher education is guaranteed by the 1960 Act.

The *Two-year Post-secondary Schools* are designed for the accelerated training of the qualified personnel needed in industry and the public service and as teachers for the upper grades of primary schools and vocational

* See Annex II for certain extracts from the text of the 1960 Act.

schools. Preference is given to candidates who desire to perfect their secondary level training (technicians and skilled workers). The course lasts two years, and certificate holders may then go on to the second level of Faculty education, or proceed directly into working life.

The *Art Academies* are institutions for advanced training in music, theatre and the fine arts, both for practitioners and, in certain subjects, for primary and secondary school teachers. Candidates must have completed their secondary education or must display outstanding ability in the selected branch in the entrance examination which is compulsory for all candidates. The length of studies is from four to five years (8–10 semesters). There are four kinds of Art Academies in Yugoslavia:

Academy of Music
Academy of Dramatic Art
Academy of Fine Arts
Academy of Applied Arts (high-grade craftsmanship).

The *Colleges* provide highly specialized professional training for personnel for industry and other economic and social activities, and have a specific character as part of Yugoslav higher education. The highly specialized character of their teaching also dictates the length of study which may vary but generally lasts three years (six semesters). The Colleges accept secondary school leavers and may accept other students who have not completed their secondary education but who are recommended by their sponsoring institution, provided they pass the entrance examination. There is no follow-up at the third (post-graduate) level of Faculty education, except for physical culture and political science.

The *Faculties* are the most important single element in Yugoslav higher education. Under the Constitution and the 1960 Act, each Faculty is a self-governing autonomous "working institution". The organisation and structure of Faculties are laid down in the 1960 Act.* They are governed by an elected *Council* including representatives of the students and of the local socio-political institutions. Day-to-day management is in the hands of the *Managing Board* and all academic questions, in those of the *Faculty Board* (i.e. the whole teaching staff). Full student participation is provided for at every stage.** The head of the Faculty is *the Dean*, who is elected by the Council from among the Faculty professors for a term of two years. He is the Chairman and convenor of the Faculty Board. The teaching staff consists of:

Professors
Associate Professors
Assistant Professors
Senior Lecturers
Lecturers***

Each Faculty is governed by its own *Statutes* adopted by its Council and enjoys considerable flexibility within the limits of the 1960 Act and the laws of the Republic.

* See Annex II.
** See p. 125.
*** See Part Two, Chapter 6.

In 1966–67 there were a total of 97 Faculties in Yugoslavia made up as follows:*

Arts and Letters	9
Natural Sciences and Mathematics	5
Engineering	38
Agriculture and Forestry	9
Veterinary Science	3
Political Science	2
Economics	10
Law	9
Medicine	8
Dentistry	2
Pharmacy	2

Faculties are sub-divided into *Departments* and sub-departments or subject branches and may establish local *Branches* in other localities.

Owing to restricted capacity, admission is by *competitive* examination, preference being given to candidates with outstanding performance in secondary education.

The University

Before the 1960 reforms the University was a compulsory and fairly close-knit association of Faculties with considerable authority over its members. Under the 1954 General Law on Universities every Faculty had to belong to a University, on the territorial principle. The 1960 Act to some extent reduced the role of the University and made it a *voluntary* association of Faculties and other institutions of higher education.**

The 1960 Act specifies that the proposal to establish a University shall require the support of at least three Faculties, Art Academies or Colleges, and that before the constitutive Act is passed the social and political institutions of the territory shall be consulted. Like the Faculties, each University is governed, subject to the Act and the laws of the Republic, by its own *Statutes*, which must be debated by the Community Assembly of the Territory in which the University is situated and confirmed by the Assembly of the Republic.

The 1960 Act specifies the tasks of the University as follows:

i) to ensure the promotion and uniformity of teaching and scientific work in the institutions within its sphere; to organise inter-disciplinary co-operation among such institutions and other related organisations;

ii) to organise, independently, or in agreement with the institutions of higher education, specialized studies for the promotion of science, or other higher education studies in disciplines in which teaching is not provided, or is not provided on a sufficient scale, by the individual institutions;

* See Annex I, Table A5.

** Pursuant to the legislative autonomy of the Republics there are some variations in the implementation of the 1960 Act. In Serbia, for example, Faculties and Colleges are obliged to be members of the University, Academies having their own association. In the other Republics the Universities are voluntary associations open to all institutions of higher education. The Split Faculty of Law, for example, has not joined the University of Zagreb.

iii) to found scientific and other institutions and services to meet the needs of the institutions within its sphere;

iv) to arrange for the publication of textbooks, manuals and other literature needed by students;

v) to be generally responsible for all questions relating to the students, teachers and activities of the institutions of higher education within its sphere;

vi) to found special institutions or services for the financial, medical and material welfare of students (halls of residence, refectories, etc.) and to improve the working conditions of teachers (by building living quarters, etc.);

vii) to represent the institutions of higher education in dealings with third parties in Yugoslavia and abroad;

viii) to conduct any other activity of common interest to the institutions of higher education, pursuant to the law and to the Statutes of the institutions and of the University.

The University is governed by *the University Council* and *the Rector* (or Chancellor). A Pro-Rector may be appointed if the Statutes so provide. The Council consists of members nominated by the institutions of higher education belonging to the University, student representatives and representatives nominated by the Parliament or Assembly of the Republic, the Assembly of the Commune and District in which the University is situated, and of the related social, political and working institutions. The Rector and Pro-Rector are *ex officio* members of the Council. The Rector and Pro-Rector are elected for a term of two years by the General Assembly of the teaching staff, auxiliary teaching staff and students of the institutions belonging to the University from among the professors of those institutions.

In 1966–67 there were seven Universities in Yugoslavia:

Belgrade	(Republic of Serbia)
Niš	(Republic of Serbia)
Novi Sad	(Autonomous Province of Voivodina)
Zagreb	(Republic of Croatia)
Ljubljana	(Republic of Slovenia)
Sarajevo	(Republic of Bosnia and Herzegovina)
Skopje	(Republic of Macedonia)

II

THE NEED FOR REFORM

The basic principle

The need for innovation can be summed up in the following statement of principle which, with some variations of language, is generally accepted in this connection:

> "The policy of industrial development and accompanying changes in economic structure, together with the growing application of scientific and technological achievements in production and the public services, the increasing role of the workers in the production process, and the development of socialist relations and self-government — all these demand an ever-growing number of skilled people for the most diverse occupations, which in turn makes it imperative for all technical and vocational training institutions to adapt to the requirements imposed by the economy and the public services".

Yugoslav social and economic development policy

The full significance of this statement of principle can be appreciated only in the context of the Yugoslav social and economic development policy and its inevitable repercussions on higher education. For the main elements in this policy it is necessary to go back to the Yugoslav Economic Development Plan, 1957–1961, from which the following data are taken.

i) The following increase of the gross social product and national income was planned for the period 1957–1961.

Table 1. PLANNED INCREASE IN GROSS SOCIAL PRODUCT AND NATIONAL INCOME, 1957–1961

	1956	1961	Index	Average annual index	
	'000 million dinars		1956 = 100	1952–56	1957–61
Gross social product ..	3,338	5,260	157.6	104.9	109.5
National income	1,473	2,275	154.4	103.6	109.1

Sources: For all tables where no source is quoted, the data are taken from the *Bulletin for Higher Education* of the Federal Statistics Bureau or the *Annual Statistical Report* of the Federal Bureau for Planning and the Federal Secretariat for Education and Culture.

ii) The accelerated rate of investment in non-productive branches would be mainly accounted for by the growth of housing and public utility construction and by the building of schools in cities and industrial centres.

Table 2. TOTAL INVESTMENTS, PRODUCTIVE AND NON-PRODUCTIVE INVESTMENTS, 1957–1961

	Index 1956 = 100
Total Investments	139.8
Productive branches*	133.4
Non-productive branches*	171.1

* The Federal Planning Bureau defines productive branches as industry, agriculture, forestry, engineering, transport and trade, and non-productive branches as housing, public utility services, education and health, general government, banking, etc.

iii) Employment outside agriculture was expected to rise by about 700,000.

iv) The following quotations are taken from the chapter on manpower:

> "If the planned increase in production and productivity is to be achieved, the pattern of skills of the work force must be systematically improved, and conditions must be created in which those who are already employed will be able continuously to improve and enlarge their knowledge... A large number of university graduates should be integrated into the economy and public services during the next five years. Since the existing rate of graduation is insufficient to ensure adequate supply, special measures should be taken... During the coming period, enterprises alone (exclusive of public services) will need about 25,000 university graduates, of whom some 10,000 will be engineers for industry and civil engineering and some 10,000 will be agricultural experts and veterinary surgeons for agriculture. At the present rate of graduation, however, no more than 20,000 graduates can be expected in the next five years... It is also necessary to increase the capacities of technical schools, to organise special types of institutions and courses and thus ensure a faster supply of qualified manpower for the economy and the public services and the upgrading of those who are already in employment. Changes in curricula are therefore needed to shorten the period of study, particularly at Faculties and Colleges".

The figures and statements quoted above clearly show that the planning documents for the period 1957–1960 envisaged an expansion of higher education; the reform of higher education was a natural step in the process of reaching the planned targets.

The second phase in the development of higher education in Yugoslavia extends to the end of 1963, and it is therefore necessary to look at some of the features of the Development Plans covering the years 1961 to 1963. During this period the main educational target was the increase in the number of institutions, "the expansion of the network of institutions of higher education".*

* Some difficulties were experienced in 1963, following the implementation of the Education Finance Act introducing decentralization into education financing. They are discussed more fully below; see Part Two, Chapter XII.

In formulating the Economic Plan for 1963, it was found that:

i) the investment rate, in both productive and non-productive branches was very high in the period 1957–1961 (the average rate for non-productive branches was 25.4%; the combined rate was 15.3%);

ii) the rate of employment increase was also high during this period (the average annual rate for the socialized sector was 8%).

These two factors, together with others not directly relevant to the present survey, explain a certain stagnation in the Yugoslav economy in 1961 and 1962. It was for this reason that the National Plan for 1963 envisaged considerable changes in investment policy, while employment policy was formulated in the following terms:

> "Business conditions in 1963 are expected to be such as to stimulate economic organisations to operate more rationally and to use their resources more economically. This being so, the planned increase in production is quite feasible with an increase in employment of 3% which is the level reached in the previous year".

It was at this stage that enterprises first showed some reluctance to take on new employees, claiming that they could reach their planned production targets without enlarging their work force, thus improving real wage levels. In these circumstances, it was even envisaged that the planned rate of 3% increase in employment might not be reached.

The repercussions on the development of higher education were considerable. With the downturn in employment trends in 1962 and 1963* "surplus manpower" appeared in Yugoslavia for the first time. The increase in employment for 1964 was planned at 4% for the productive sector, but the planned figure for public services, and especially education, was no more than 1.4%.

In addition to these quantitative changes, some of which had an adverse effect on education, the 1964 National Plan noted a feature which still survives in Yugoslavia:

> "Enterprises and other bodies are expected to pay much more attention to *improving the pattern of skills* of the work force, which is still unsatisfactory. Objective conditions now exist for a faster improvement of the pattern as new graduates start their working life in greater numbers. About 15% of all newly employed persons in 1964 are expected to be University and College graduates (compared with 4.7% in 1961). Enterprises are therefore reasonably expected to gear their employment policies towards the maximum utilization of the opportunities which now exist for improving the pattern of skills of their personnel".

At first sight these problems appear merely quantitative, but in fact they touch upon both quantitative and qualitative aspects of the relation between higher education and the outside world. What is involved is the whole problem of the structure of higher education, syllabus and curricula – the problem, in short, of meeting the needs of the community.**

At the beginning of 1965, it was noted that a disproportion had arisen between production and consumption, between what was desired and what

* The average growth rate in 1957–61 was about 8%; in 1962 and 1963 it was a little under 3%.

** See Part Two, Chapter X, Higher Education and the Outside World.

proved to be feasible. The 1965 National Economic Plan therefore focused even greater attention on employment, noting, among other things that:

> "General economic policy objectives, increased production and better business results should be achieved through more intensive methods of business operation, better utilization of resources and higher productivity; the increase in employment should be lower and should not exceed 3.5%".

The idea of changing the pattern of the work force is again raised, with a special note: "It is particularly important to increase the employment of people with secondary technical qualifications". This brings us to the threshold of the Yugoslav economic reform which has subsequently spread to other social activities and become a true social reform. It has called attention to the need for a shift from extensive to intensive modes of operation, both in the economy and in all other kinds of social activity, including education and higher education.

Excessive time to complete degree course

One special problem of higher education in Yugoslavia in the past has been the excessive length of time spent by some students on their studies. The Federation of Yugoslav Universities, describing the situation on 1st September 1957, reported that there was a total of 23,917 students in all Yugoslav Universities who had finished their prescribed course of studies but had not yet graduated. The majority had completed their course of study between 1950 and 1957, while some had finished even before 1950; 13,506 of them had between five and nine examinations still to pass before graduating (see pp. 51 and 56 *et seq.*).

The development of the higher education system

In this economic and social context, Yugoslav higher education has developed along the following lines.

i) During the first period, from 1946 to 1958, institutions of higher education developed as a new element of social life to complete the country's education system.

ii) The second period, 1958–1963, which in fact marks the first stage of the reforms, witnessed an "explosion" of the network of institutions of higher education. This was the period during which the comparatively rapid process of industrialization made the shortage of technical and scientific manpower extremely acute. In 1958, the Federal Assembly passed a Resolution on the training of scientific and technical manpower, strongly supporting the expansion of education.

iii) The third period, from 1963 to 1967, has been one of stabilization. Further expansion of the network of institutions of higher education has been halted, but important changes are still taking place in internal structure, organisation, numbers, and in other respects.

III

AIMS OF THE REFORMS

The main aim of innovation has always been to improve higher education and to build up a flexible, inter-related system, capable of producing a regular and sufficient number of highly qualified personnel, of varied skills, to match the needs of the country's rapidly growing economy and increasingly complex social life.

Other major aims are:

i) to expand the network of institutions of higher education and to enable other bodies in addition to the Parliaments of the Federated Republics (such as local authorities, enterprises and other institutions) to take the initiative in founding such institutions;

ii) to enable institutions of higher education to be established elsewhere than in the capitals of the Federated Republics;

iii) to integrate higher education into an organic system, embracing not only Faculties and Colleges, but also Two-year Post-secondary Schools (whose certificate-holders could go on to higher levels of study at Faculties and Colleges);

iv) to introduce a three-tier system of education wherever feasible, to provide qualified personnel for various requirements;

v) to differentiate teaching horizontally and to qualify students for the needs of different occupations and jobs;

vi) to modernize teaching methods and equipment and to make higher education more efficient;

vii) to develop the system of part-time study;

viii) to democratize enrolment, enabling more citizens to obtain the highest qualifications;

ix) to shorten the effective length of studies.

IV

HISTORY OF THE REFORMS

The Joint Commission of 1957

For the purposes of the present report, the starting point of reform may be taken as the establishment, on 6th July 1957, of a *Joint Commission* of the Federal Assembly and the Federal Executive Council (the Central Government) to study the current problems of institutions of higher education and to make recommendations for the reorganisation of higher education, undergraduate and post-graduate teaching and curricula. The recommendations were to be based on past experience and social needs, with special reference to the need for different kinds of personnel fully qualified both for practical work in industry and for research.

The Commission split into five Sub-Committees as follows:

General Questions
Social Science Faculties
Faculties of Agriculture, Forestry and Veterinary Sciences
Faculties of Medicine
Faculties of Natural Sciences and Engineering.

The Sub-Committees set up a total of 32 Working Parties, and a total of 276 people from Universities, non-university institutions, business and social organisations and professional and public life took part in the proceedings.

The Joint Commission surveyed all the questions covered by its terms of reference and heard a broad spectrum of witnesses from business and social organisations, science and public life, as well as from all Faculties, Colleges, Art Academies and Two-year Post-secondary Schools.

The inquiry resulted in 19 volumes of tabulated documentary material and 11 volumes of descriptive text, totalling some 4,000 pages. In addition, 15 volumes of a special bulletin were issued in co-operation with the Federation of Yugoslav Universities, containing articles, studies and reports on problems of university education in Yugoslavia and abroad. A special publication was produced under the title "General Data on the Development of Universities, Colleges and Two-year Post-secondary Schools in Yugoslavia", containing the documentary material on which the Commission's Report was based. In addition, 51 major papers and 93 discussion papers were prepared on important specific questions, to serve as guidelines for the discussions and conclusions of Working Parties and Sub-Committees.

Each Sub-Committee prepared its own Report and Conclusions which were incorporated into the Final Report of the Joint Commission, "A Proposal for the Re-organisation of Universities, Colleges and Two-Year Post-secondary Schools in Yugoslavia". The Report was submitted for consideration to the Federal Executive Council and its Committee for Education and Culture in June 1959.

The Committee for Education and Culture discussed the Report in June 1959 and the Executive Council on 29th September 1959. The Executive Council welcomed the work of the Joint Commission and considered that the material submitted formed a sound basis for further work on the reorganisation of higher education. It adopted the Commission's conclusions, with some modifications, laying special stress on some of the proposals. The Secretariat for Education and Culture was instructed to prepare new or amended legislation along the lines of the Joint Commission's "Proposal" and the Executive Council's decisions. Universities, Faculties, Colleges and Two-year Post-secondary Schools and the Federation of Yugoslav Universities, as well as all social and economic institutions interested, were to take part in preparing the new legislation. The aim of the reorganisation was to organise the country's higher education to enable it to meet existing and foreseeable needs for qualified personnel of all kinds.

The 1958 Recommendation

Even while the Joint Commission was still proceeding, however, the first steps were taken to reorganise higher education. The Federal Chamber of the Federal Assembly, at its session of 26th June 1958, adopted a "Recommendation for the Creation of Better Conditions for Training of Highly Skilled Specialists" (hereinafter, for the sake of convenience, called "*the 1958 Recommendation*").

The 1958 Recommendation, which in practice marked the beginning of drastic reforms in higher education in Yugoslavia, listed the following major tasks:

i) the length of studies at Faculties should be reduced to a reasonable level, normally four years, during which period students should be prepared for practical working life rather than for research;

ii) more active methods should be introduced, both in teaching and in learning so as to cut the study period to a reasonable minimum;

iii) university facilities, both in personnel and material should be improved, and long-term development plans should be established;

iv) post-graduate courses should be systematically organised to train top specialists and researchers.

The implementation of the 1958 Recommendation

The 1958 Recommendation was actively supported by all those concerned with higher education, and in little more than a year after its adoption, Mr. Krste Crvenkovski was able to report the following progress to the Federal Assembly, on 16th October 1959.

The regular course of study had been reduced to the limits suggested by the Recommendation; the Statutes of the Engineering, Agricultural and Forestry Faculties stipulated a four-year cycle (eight semesters), while the Faculties of Medicine had a five-year cycle (ten semesters).

Major changes had been made in the syllabus of most Faculties. Some subjects had been condensed, others merged and others dropped outright. Equally radical changes had been made in curricula, especially in the early stages of study. The main objective was to present as much material as the average student, with due diligence, could master within the prescribed time to become qualified at a given level. Syllabuses were, in general, shortened and brought into line with the spirit of the Recommendation. This could not, however, be said with equal conviction of the curricula, since in some Faculties the results in this respect were not satisfactory.

Many of the Faculties had begun to "stream" their senior students and to form new departments, but clear concept about what was to be done seemed lacking.

The number of hours of large class lectures and seminars was reduced, while the number of hours devoted to practical work was increased; multi-semester subjects had been reduced to one or two semesters and the semester had been lengthened.

A number of Faculties had made an effort to co-ordinate theoretical teaching and practical training. Extra examination periods had been introduced for senior students and for those who had completed their course of study but had not yet taken their finals.

The concerted efforts of social self-government bodies and teacher and student organisations had resulted in an improved regime of study. Greater responsibilities were placed upon students, particularly with regard to the regular taking of the prescribed examinations. Most Faculties had introduced regulations making second and third year enrolment conditional on taking the first and second year examinations respectively. A number of Faculties required at least half of the third or fourth year examinations to be taken before fourth or fifth year enrolment.

Faculty authorities had taken a series of measures designed to establish and maintain close contacts between teachers and students. Some new forms of teaching were being adopted, additional to the traditional forms of lectures and seminars. Particularly valuable were regular tutorials during which teachers helped students with advice and checked their work, guided them through the subject matter and prepared them for examinations.

It is evident from the above that a single year, 1958–59, witnessed some progress in the regular taking of examinations, not only in the early years of university study, but also at a later stage.

With regard to the fourth aim of the 1958 Recommendation, the establishment of post-graduate courses, there were no spectacular results during this period. Some Faculties introduced specialist courses in 1959, but post-graduate study at this time was still somewhat undeveloped both as to numbers of teachers and students and as to methods.

The University Building Programme, 1958–1961

With regard to the third aim of the 1958 Recommendation, improved facilities in personnel and material, both the Federal Government and the individual Federated Republics made a determined effort to improve and expand the material basis of university education.

Implementing the decision of the Federal Executive Council of June 1958, the Federal Secretariat for Education and Culture prepared a

Programme of University Building in Yugoslavia until 1961 (based on the plans of the different Republics). The programme was then reviewed by the Committee for Education and Culture and the Committee for Social and Economic Planning of the Federal Executive Council.

During 1958, the Federal Executive Council allotted 850 million dinars from Federal reserves to Faculties which had already started building (610 million dinars of this was already spent in 1958).

In May 1959 the Federal Executive Council decided to provide 50% of the funds needed in that year for the building and equipment of Faculties training personnel for the economy (Faculties of Engineering, Agriculture, Forestry and Veterinary Sciences) and of Institutes of Physics and Chemistry serving whole universities.

The constituent Republics of Yugoslavia provided a total of 3,182 million dinars for the University Building Programme for 1959, to which the Federal Government added another 3,183 million. The total for that year was thus more than 6,000 million dinars, the highest amount spent on University building in any single year since the War.

The 1960 legislation

All the developments so far described can be taken as a prelude to the reforms initiated in 1960. In that year there were two important enactments. The first was the Federal Assembly *Resolution on Technical Personnel* (4th June 1960) defining the principles of long-term policy for technical education and laying the foundations for the organisation of a system of technical education. The Resolution spoke of the need:

i) to improve the general and technical knowledge of the population;

ii) to relate theoretical learning to practical production work;

iii) to provide facilities for part-time study in all Faculties for people already employed;

iv) to establish school centres and vocational training centres;

v) to organise teaching in Faculties and Colleges in several self-contained cycles, each with a degree of its own, at different levels.

The Resolution also defined a new relation between technical education and business and social service organisations, as a basis for the more efficient financing of technical education.

The second enactment was the amended General Law on Universities, renamed the *General Law on Faculties and Universities,* 1960 ("the 1960 Act") which provided a framework for the formulation of higher education laws in the different Republics.

The following are the main features of the 1960 Act:

i) the organisation of higher education in three self-contained and inter-related levels, each of a specified length;

ii) special examination provisions for exceptionally able or diligent students, who can now graduate in advance of the prescribed time;

iii) the right of citizens without secondary education, but with practical experience, to enrol on passing an entrance examination;

iv) the establishment of an organisational framework for part-time study;

v) facilities for students to do practical work in enterprises;

vi) provision for co-operation between Faculties and Universities and all bodies, institutions and organisations interested in the education of highly qualified personnel.

The 1960 Act again reiterates the major aim of the reform, namely, the training of persons whose skills are most suited to the needs of a country which is rapidly becoming industrially developed.

Part Two

SPECIFIC PROBLEMS OF INNOVATION

40(no p. 41,42)

I

NUMBERS

Assessing the success of the reforms

This first section deals with the quantitative aspects of the reforms, the qualitative aspects being considered later. Tables 3 to 6 show the basic indexes of the expansion of higher education from 1957 to 1967 (1957–58 = 100). The success of the innovations can be assessed on the basis of these indexes.

i) The first thing that can be said is that a uniform and fairly flexible system of higher education has been set up, embracing Two-year Post-secondary Schools, Colleges, Art Academies and Faculties. This system produces highly qualified graduates at several different levels. The Post-secondary Schools turn out graduates after two years of study, the Colleges, as a rule, after three and the Faculties after four. (These are the target figures, as envisaged by the statutes and Regulations of these institutions.)

ii) The second point which emerges from the statistics is that the expansion of the network of institutions of higher education, like most other aspects of the reforms, reached its peak in 1962–63 and was followed by a period of levelling off between 1962 and 1967. This is confirmed by the figures shown in Table 7.

The first period, 1957–1963

i) *Expansion*

It is worth considering the first period of reform in higher education (1957–1963) in greater detail. Table 8 shows those results of the early stages of the reform which can be most readily expressed in terms of quantity.

The number of institutions of higher education doubled between 1958–59 and 1961–62. The rise was most marked in new Colleges and Two-year Post-secondary Schools, but the increase in the number of Faculties was also appreciable — from 55 to 88. Enrolments increased by about 63 % during the same period: the increase in Two-year Post-secondary Schools was 164 % and in Faculties 42 %. The absolute increase in enrolments was much more striking in Faculties (33,101) than in Two-year Post-secondary Schools (24,653). The number of teachers also went up, but failed to keep pace with the rise in enrolments. (The average overall increase was 58 %, of which 49 % in Faculties and 82 % in Two-year Post-secondary Schools.)

Table 3. TOTAL INSTITUTIONS OF HIGHER EDUCATION, 1957–1967*

Index 1957–58 = 100

Number	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Institutions	110.9	130.0	185.4	221.8	236.3	236.3	239.0	241.8	242.7
Total students	117	126	170	190	193	193	205	223	235
Full-time	111	118	133	145	150	150	150	171	187
Part-time	147	172	380	455	446	446	528	522	521
Teachers	105	111	137	178	207	220	244	244	247
Auxiliary teaching staff	114	124	150	166	173	194	194	194	185
First-year enrolments	120	131	208	233	225	233	260	283	290
Full-time first-year	106	113	140	158	170	170	178	217	229
Part-time first-year	168	200	452	483	423	448	552	508	479
Graduates	122	145	178	207	273	307	325	333	344
Full-time graduates	166	200	240	272	355	379	381	385	...
Part-time graduates	34	37	56	79	113	167	15	231	...

* In all tables in the body of the text, as well as in the Statistical Annex, "Total Institutions" include Art Academies, but as they are not listed separately, the total of Faculties, Colleges and Two-year Post-secondary Schools will be found to be less than "Total Institutions"
In some cases the official statistics make no distinction between full-time and part-time students and the numbers cannot be shown separately.

Table 4. FACULTIES, 1957–1967

Index 1957–58 = 100

Number	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Faculties	101.8	109.2	144.8	162.9	174.1	170.3	172.2	177.7	179.6
Total students	114	120	152	162	153	143	143	155	161
Full-time	110	114	126	134	133	126	125	144	148
Part-time	139	156	320	359	295	264	265	260	238
Teachers	97	108	123	156	184	202	215	217	220
Auxiliary teaching staff	111	12[illegible]	145	160	160	170	172	170	167
First-year enrolments	111	117	178	185	161	147	156	174	171
Full-time first-year	101	105	125	141	140	129	137	166	172
Part-time first-year	175	185	407	366	253	224	235	208	166
Graduates	109	131	157	177	189	201	192	188	183
Full-time graduates	117	140	168	189	202	214	198	189	...
Part-time graduates	62	75	90	103	113	126	165	182	...

Table 5. COLLEGES, 1957–1967

Index 1957–58 = 100[1]

Number	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Colleges	200	700	1,000	1,400	1,600	1,700	1,700	1,600	1,600
Total students	153	384	689	1,142	1,409	2,038	2,249	2,287	2,260
Full-time	156	370	587	844	875	1,233	1,220	1,182	1,378
Part-time	83	683	3,150	8,375	14,833	21,600	27,200	28,116	23,626
Teachers	113	540	1,040	1,820	2,153	2,940	3,253	3,433	3,160
Auxiliary teaching staff	188	225	356	497	812	887	1,081	1,006	922
First-year enrolments	296	711	1,245	1,961	2,095	3,630	3,874	3,936	4,204
Full-time first-year	301	635	882	1,205	942	1,705	1,786	1,800	2,480
Part-time first-year	100	4,050	17,100	39,850	52,250	87,350	94,700	99,800	79,750
Graduates	80	92	80	735	1,300	1,213	1,519	1,533	1,680
Full-time graduates	82	93	86	569	1,138	1,131	1,373	1,300	...
Part-time graduates	116	83	67	316	2,466	1,833	2,683	3,450	...

1. Not meaningful due to small numbers involved in base year.

Table 6. TWO-YEAR POST-SECONDARY SCHOOLS, 1957–1967

Index 1957–58 = 100

Number	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Two-year post-secondary schools	122	150	240	298	315	311	315	318	318
Total students	133	159	265	338	395	441	521	567	631
Full-time	116	137	174	204	244	283	295	360	412
Part-time	178	217	510	754	800	860	1,117	1,112	1,117
Teachers	121	118	162	221	253	254	280	287	293
Auxiliary teaching staff	158	168	206	281	302	457	430	406	402
First-year enrolments	149	170	313	380	446	517	623	663	705
Full-time first-year	125	140	195	223	268	339	347	453	509
Part-time first-year	193	224	533	700	737	853	1,138	1,051	1,070
Graduates	171	180	258	306	377	416	467	514	587
Full-time graduates	184	225	369	298	351	335	362	405	...
Part-time graduates	91	86	173	267	380	565	705	751	...

Table 7. INDEXES OF THE NUMBER OF INSTITUTIONS, 1957–1967

Type of institution	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	
Total institutions	236.3	236.3	108.7	102.7
Faculties	174.1	170.3	103.1	105.4
Colleges	16,000.0*	17,000.0*	100.0	100.0
Two-year Post-secondary Schools..	315	311	100.0	100.0

* Not meaningful due to small numbers in base year.

Table 8. INCREASE IN THE NUMBER OF HIGHER EDUCATION INSTITUTIONS, ENROLMENTS AND TEACHING STAFF, 1958–1962

Place	Number of Faculties		Enrolments		Teachers and auxiliary teaching staff	
	1958–59	1961–62	1958–59	1961–62	1958–59	1961–62
Serbia						
Belgrade	16	18	36,951	43,221	2,259	3,011
Bor	–	1	–	264	–	20
Kragujevac	–	2	–	956	–	43
Niš	–	3	–	2,907	–	199
Novi Sad	2	6	1,654	4,732	124	410
Priština	–	2	–	1,258	–	67
Subotica	–	1	–	1,075	–	25
Croatia						
Osijek	–	1	–	988	–	21
Rijeka	1	3	281	1,160	57	139
Split	–	3	–	1,130	–	81
Sisak	–	2	–	143	–	...
Zadar	1	1	274	422	32	48
Zagreb	12	13	19,066	22,777	1,672	2,070
Slovenia						
Ljubljana	9	9	7,568	9,269	687	917
Bosnia and Herzegovina						
Sarajevo	7	12	5,610	9,284	594	944
Tuzla	–	2	–	625	–	82
Zenica	–	1	–	144	–	35
Macedonia						
Skopke	7	7	7,500	10,919	436	584
Montenegro						
Titograd	–	1	–	726	–	22
Total Faculties	55	88	78,904	112,005	5,861	8,718
Art Academies	11	11	1,377	1,646	372	412
Colleges	2	14	464	3,461	77	432
Two-Year Post-secondary Schools	54	131	16,145	40,989	1,606	2,916
Total	122	244	96,890	158,010	7,916	12,478

The following table gives comparative figures for Faculties and Two-year Post-secondary Schools for 1958–59 and 1961–62.

Table 9. PERCENTAGE INCREASES IN FACULTIES AND TWO-YEAR POST-SECONDARY SCHOOLS 1958–59/1961–62

	Faculties	Two-year Post-secondary Schools
Number of institutions	+ 60	+ 143
Number of enrolments	+ 42	+ 154
Number of teachers	+ 49	+ 82

These figures show that the number of Faculties increased faster than the number of enrolments or the number of teachers. The number of Two-year Post-secondary Schools and their enrolments grew faster than the Faculties, which is a characteristic feature of the higher education reforms.

It should be noted that the comparisons above are based on the *total* number of students and teachers, including, in each case, both full-time and part-time.

The expansion of the network of institutions of higher education in relation to the size of the population in the different Federated Republics is equally indicative of the efforts made, as appears from Tables 10 and 11 below.

Table 10. NUMBER OF INSTITUTIONS OF HIGHER EDUCATION IN YUGOSLAVIA AND IN THE FEDERATED REPUBLICS, 1958–1966

	Yugo-slavia	Bosnia and Herze-govina	Monte-negro	Croatia	Mace-donia	Slovenia	Serbia
1958	110	12	1	32	8	20	37
1963	259	34	4	83	17	28	94
1966	266	34	4	84	18	29	97
Index							
1958–46	241.8	283.3	400.0	262.5	225.0	145.0	262.1
1963–58	235.4	283.3	400.0	159.3	212.5	140.0	251.3
1966–63	102.7	100.0	100.0	101.2	105.8	103.5	104.3

Table 11. INDEX OF POPULATION PER INSTITUTION OF HIGHER EDUCATION
1957–58/1965–66

	1957–58	1965–66
Yugoslavia	163,800	74,720
Bosnia and Herzegovina	260,500	107,617
Montenegro	453,000	129,259
Croatia	127,780	51,405
Macedonia	170,750	86,166
Slovenia	77,950	57,103
Serbia	200,674	83,041

ii) *Location of institutions*

One of the principles of the reforms, as already noted, was that institutions of higher education should be evenly distributed over the whole of Yugoslavia and, as far as possible, linked with the appropriate industrial centres.

In Serbia, new Faculties were thus established at Novi Sad, Subotica, Niš and Priština; the Faculties of Mechanical Engineering and Economics opened Branches at Kraujevac; the Belgrade Faculty of Philosophy split into two (Philosophy-History and Philology) while the Transport Department of the Faculty of Mechanical Engineering became a fully-fledged Faculty of Transport. A new University of Novi Sad was founded, with six Faculties in Novi Sad and the Faculty of Economics at Subotica. A number of Two-year Post-secondary Schools were opened at Belgrade, Niš, Novi Sad, Priština, Subotica, Šabac, Zrejanin, Čačak, Arandelovac, Kruševac, Leskovac, Peč, Požarevac, Prizren, Titove Užice and Vranje.

In Croatia, new Faculties were opened at Zagreb, Rijeka, Split, Sisak, Zadar, Osijek; Two-year Post-secondary Schools were opened at Zagreb, Split, Katlovac, Rijeka, Osijek, Pula, Dubrovnik, Čakovec, Duga Resa, Križevci, Nova Gradiška, Opatija, Pakrac, Petrinja, Slavonski Brod, Sibenik, Varaždin, Vinkovci, Vokovar and Zadar.

In Slovania, new Colleges and Two-year Post-secondary Schools were opened at Ljubljana and Maribor, the two most important educational centres, as well as at Domžale and Piran.

In Bosnia and Herzegovina several Faculties were opened at Sarajevo, Tuzla and Zenica; new Colleges or Post-secondary Schools were established at Sarajevo, Banja Luka, Mostar, Brčko and Tuzla.

In Macedonia, Two-year Post-secondary Schools were opened at Skopje, Bitolj, Kumanovo, Prilep, Strumica, Štip and Tetovo. In Montenegro, the Faculty of Economics was established at Titograd, and Two-year Post-secondary Schools at Cetinje and Kotor.

iii) *Improved performance*

An important quantitative indicator of the efficiency of higher education is the number of graduates.

Table 12. NUMBER OF GRADUATES, 1958–1961

	1958	1961	Total 1958–61
Faculties	6,907	11,216	36,403
Art Academies	165	237	838
Colleges	44	375	509
Two-Year Post-secondary Schools	3,090	5,535	16,967
Total	10,206	17,363	54,717

Taking the basis 1958 = 100, then the index of graduation in 1961 had already reached 170.

Another measure of the efficiency of higher education is the percentage of graduates to total enrolments. On this criterion, the results of the first stage of the reform were as follows.

Table 13. PERCENTAGE OF GRADUATES TO TOTAL ENROLMENTS 1957–1961

	1957		1958		1959		1960		1961	
	Number	%	Number	%	Number	%	Number	%	Number	%
Belgrade ...	3,057	9.9	3,832	11.0	4,503	12.6	5,083	11.1	5,543	10.9
Zagreb	1,687	9.7	2,040	10.4	2,212	10.8	2,498	10.0	2,939	10.9
Ljubljana ..	197	9.9	184	8.9	291	11.4	355	19.9	390	14.2
Skopje	536	8.8	789	10.5	879	9.5	1,195	11.2	1,127	10.6

Reference has been made in Part One, Chapter II to the special problem of excessive length of study. During the first stage of the reform the effective length of study was slightly shortened. The reduction can hardly be called spectacular, but it was at least a step in the right direction. The reduction at Belgrade University was from 7.0 years in 1958–59 to 6.4 years in 1961–62, at Ljubljana University from 7.2 to 6.6 years, and at Skopje University from 7.9 to 7.7 years.

After the 1958 Recommendation, some Universities began to follow the progress of individual cohorts of students, and to observe how they moved on to successive years of study.

The following table gives a comparative review of the successful completion of first-year studies at different Yugoslav Universities.

Table 14. PERCENTAGE OF FIRST-YEAR STUDENTS MOVING UP TO SECOND YEAR, 1958–1961

	1958–59	1959–60	1960–61
Belgrade	56.9	54.2	45
Zagreb	...	63	57
Novi Sad	...	56	44
Sarajevo	58.3	62.2	60
Ljubljana	...	...	57

These figures are, however, too incomplete to warrant any valid general inference.

iv) *Part-time study*

Before the academic year 1960–61 part-time study was recognized only in Faculties of Law and Economics and some Faculties of Arts and Letters. In 1959–1960 only 16 Faculties afforded facilities for part-time students. In 1960–61 part-time students were admitted at 54 Faculties, 11 Colleges and 2 Art Academies; in 1961–62, all Faculties, except the Medical Faculties of Zagreb, Rijeka and Niš enrolled part-time students.

The following table shows the trend of part-time enrolments at Faculties, Colleges and Art Academies during the first period of the reform.

Table 15. PART-TIME ENROLMENT TRENDS, 1956–1962

	Total part-time enrolments	% of total enrolments	First-year part-time enrolments	% of total first-year enrolments
1956–57	8,013	13.0	4,088	32.4
1957–58	13,539	15.8	10,222	28.7
1960–61	28,800	26.6	22,637	42.8
1961–62	31,723	27.1	16,187	37.1

Part-time enrolment trends in Two-year Post-secondary Schools during the same period were as follows:

Table 16. PART-TIME ENROLMENT TRENDS, TWO-YEAR POST-SECONDARY SCHOOLS, 1959–1962

	Number	Percentage of total enrolments
1959–60	7,254	37.6
1960–61	17,014	52.8
1961–62	23,026	56.3

v) *Financing and cost*

The figures so far quoted already give a rough outline of the development of the first period of reform. They indicate that higher education did in practice basically attain the planned proportions. This is borne out by certain financial indicators which clearly show the treatment accorded to higher education during this period.

Current expenditure was as follows:

Table 17. CURRENT EXPENDITURE, 1958–1961

In million dinars

	1958	1959	1960	1961
Total	6,790	8,328	11,903	15,227
Index, 1958 = 100	*100*	*122*	*175*	*224*
Faculties, Colleges and Art Academies	6,127	7,578	10,218	13,412
Two-year Post-secondary Schools	663	750	1,685	2,985
Index, 1958 = 100	*100*	*113*	*254*	*314*

Capital expenditure from all sources was as follows:

Table 18. CAPITAL EXPENDITURE, 1958–1961

In million dinars

	1958	1959	1960	1961
Total	2,586	4,398	4,748	6,600
Faculties, Colleges and Art Academies	2,364	4,362	4,693	6,530
Two-year Post-secondary Schools	222	36	55	70

Enrolments

The enrolments indexes, like the figures for the numbers of institutions of higher education, also bear out the view that expansion reached its peak by 1962. The increase is more marked for Colleges and Two-year Post-secondary Schools than for Faculties, but in every case the increase is much less sharp after 1962–63 than before.

Table 19. ENROLMENT INDEXES, 1957–1967

	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	
Total enrolments	193	193	121.7	121.7
Faculties	153	143	105	112
Colleges	1,409*	2,030*	160	111
Two-year Post-secondary Schools ..	395	441	159	143

* Not meaningful due to small numbers in base year.

Table 20. FIRST-YEAR ENROLMENT INDEXES, 1957–1967

	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	
Total enrolments	225	233	129	129
Faculties	161	147	106	116
Colleges	2,095*	3,630*	200	116
Two-year Post-secondary Schools ..	446	517	158	134

* Not meaningful due to small numbers in base year.

Teaching staff

It has been pointed out above that the rapid increase in the number of institutions and enrolments before 1962 was accompanied by a fairly comparable increase in the number of teaching and auxiliary staff. Between 1962 and 1967 the increase in staff failed to keep pace with the increase in enrolments, even though the latter was smaller and more "normal".

Table 21. INDEXES OF TEACHING AND AUXILIARY STAFF, 1957–1967

	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	
All institutions				
Teachers	207	220	119	112
Auxiliary staff	173	194	107	98
Faculties				
Teachers	184	202	120	109
Auxiliary staff	160	170	104	98
Colleges				
Teachers	2,153*	2,940*	147	107
Auxiliary staff	812	887	113	104
Two-year Post-secondary Schools				
Teachers	253	254	116	116
Auxiliary staff	302	457	132	90

* Not meaningful due to small numbers in base year.

In some cases, such as Faculties, the differences between the trends for enrolments and teaching staff are very small, while in others, particularly the Two-year Post-secondary Schools, they are more pronounced. But the situation in all institutions is fairly serious for auxiliary staff; their numbers have been decreasing, which necessarily affects the qualitative aspects of the reforms. The student teacher ratio is not only unsatisfactory, but is getting worse every year.

The student teacher ratios are shown in Table 22.

Table 22. STUDENT/TEACHER RATIOS,1957–1967

	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Total										
Student/teacher ...	22	25	25	27	24	21	19	19	20	21
Student/auxiliary staff member	24	24	24	27	27	26	24	25	27	30
Faculties										
Student/teacher ...	29	35	33	36	30	25	21	20	21	22
Student/auxiliary staff member	21	22	21	22	22	21	18	18	19	21
Colleges										
Student/teacher ...	20	27	14	13	13	13	14	14	13	14
Student/auxiliary staff member	10	8	16	18	22	16	22	20	21	23
Two-year Post-sec. Schools										
Student/teacher ...	11	12	15	18	17	17	19	21	22	23
Student/auxiliary staff member	69	58	65	88	83	90	66	83	91	106

We shall consider the reasons for this state of affairs below (see Chapter XII) but, at this point, the student teacher ratios must be taken as an adverse factor in the qualitative aspects of the reforms. They have also had an adverse effect on the further development of higher education.

Graduation and length of study

Two more sets of figures can be given, showing the indexes of graduates and the average length of study.

Table 23. INDEXES OF GRADUATION, 1962–1966

	1957 = 100		1962 = 100	1963 = 100
	1962	1963	1966	
Total	273	307	126	112
Faculties	189	201	96	91
Colleges	1,300*	1,213*	129	138
Two-year Post-secondary Schools	377	416	155	141

* Not meaningful due to small numbers in base year.

The index for the period 1962–66 shows a clear downward trend, compared with the earlier period of the reforms. The fall is particularly marked in the Faculties. Table 24 shows the percentage of graduates to total enrolments, and it is clear that the index is falling steadily. The fall can already be noticed at the end of the first period of reform (1963) in the Colleges and Two-year Post-secondary Schools.

Table 24. PERCENTAGE OF GRADUATES TO TOTAL ENROLMENTS, 1962–1966

	1957 = 100		1962 = 100	1963 = 100
	1962	1963	1966	
Total	123	140	107	96
Faculties	100	113	97	86
Colleges	109	83	66	87
Two-year Post-secondary Schools	92	81	81	86

It should be remembered that 1966 enrolments were 21.7 % higher than those in 1963, and yet the percentage of graduates was 4 % lower in 1966 than in 1963. Faculties had 12 % more students and 14 % fewer graduates in 1966 than in 1963, and similar figures apply to the other two categories of institutions of higher education.

Table 25. INDEX OF AVERAGE LENGTH OF STUDY, 1962–65

1957 = 100*

	1962	1963	1964	1965
Two-year courses	84	90	97	122
Three-year courses	83	85	75	95
Four-year courses	96	95	91	93
Five-year courses	93	97	94	89

* These figures are based on statistics which are not uniform in respect of the last year taken into account. For example, in the case of four-year courses, the last year taken into account is "eight and over". We have taken eight years as the longest period of study, disregarding possible cases of longer study. The above figures are therefore not completely accurate, but they are sufficiently close to indicate the general trend.

The actual length of study did not improve over the period of ten years. Table 26 shows the actual situation at the end of 1965.

Table 26. ACTUAL LENGTH OF STUDY, END-1965

	Actual length, years
Two-year courses	3.8
Three-year courses	3.8
Four-year courses	5.7
Five-year courses	6.1

It should also be noted that some Faculties, especially Engineering Faculties, are trying to prolong their courses beyond the recommended period of four years on the argument that better-qualified graduates are trained in this way, while the actual length of study is in fact reduced.

Conclusions

The rapid development of the network of institutions of higher education, not always adequately prepared from the point of view of organisation, personnel or material needs, has had some serious consequences. The most important has been the stagnation, or even the downright deterioration, of educational standards, especially in newly established institutions. Some developing institutions still find it difficult to get enough good teachers or sufficient classroom or laboratory space or other material needs.

There have been cases of local authorities establishing institutions of higher education without due regard to the real needs and possibilities; newly established Two-year Post-secondary Schools would be hastily "promoted" into Colleges or Faculties even before the first cohort of students was ready to graduate. Not infrequently, new institutions have been created where existing ones could have met the need adequately. New

institutions have sprung up and old ones have branched out, so that parallel courses now exist in the same Republic or even in the same University. In such circumstances it is clear that education potential can hardly be used economically. This kind of disorganisation has inevitably led to the disorganisation of the education process and of its material framework (laboratories, libraries, reading rooms, equipment, classrooms, etc.) as well as to the uneconomic use of teachers, auxiliary teaching staff and clerical and technical personnel.

The main trouble was that many institutions tried to start work before all normal operating conditions were satisfied (teachers, classrooms, teaching equipment, laboratories, workshops, halls of residence, refectories, etc.). Some institutions, especially Two-year Post-secondary Schools, were opened up before the needs for graduates with this particular background had been carefully weighed up. It was for this reason that some of them have had to be closed. Not enough attention has been paid to the proper guidance of students in the choice of their field of study; this has resulted in a serious lack of balance between enrolments in technical schools on the one hand and in all other types of school on the other.

All this indicates that the expansion of higher education — where it has not been properly prepared and matched to the needs and potential of the given community — has brought about a fragmentation of the network of institutions, an uneconomic use of human and material resources and a deterioration in the quality of teaching.

If this expansion of higher education is to be assessed objectively, however, it must be remembered that it was conditioned by a whole series of factors of Yugoslavia's social and economic development. The increase in the number of institutions of all types was dictated by the needs of the economy and of the social service, as well as by the population increase and the influx of young people of school age. Increased enrolments in institutions of higher education were therefore regarded as a normal development. The actual situation, however, turned out somewhat differently.

i) Planned manpower requirements were unrealistic in the light of the planned rate of employment.

ii) The population increase was lower than expected.

iii) The National Economic Plan (cf. p. 29) has, in recent years, laid greater emphasis on higher productivity at a decreased rate of employment. This is in line with the general economic development and with the expressed intention of enterprises not to increase, but rather to cut, their work force, and thus improve earnings, which are now directly related to productivity.

iv) Personnel planning represents a special problem. A basic difficulty in developing the network of institutions of higher education in some Socialist Republics is the lack of reliable personnel planning. Enterprises, as well as administrative institutions have failed to study and establish the real personnel needs. There are no special "personnel services" to study the problem and to put forward well founded and reliable analyses which would influence higher education policy. It is often pointed out that the dynamic expansion and development of the Yugoslav economy and changes in administrative organisation are an obstacle to the precise and thorough study of personnel needs.

The Annual Reports published by the Yugoslav Universities between 1958 and 1960 reflect a marked improvement in the results achieved by the cohorts of students enrolled after the 1958 Recommendation of the Federal Assembly (cf. p. 36) and after certain revisions in syllabuses and curricula and in the system of higher education. This is true of students enrolled in 1958–59 and 1959–60. Later Annual Reports, however, record a noticeable deterioration in student standards at all Yugoslav Universities between 1962 and 1966.

It is true that during that period there was an increase in the number of examinations taken and passed, but the percentage of examinations passed to those taken fell everywhere. The increased number of examinations taken resulted mainly from increased enrolments and — at least to some extent — from the greater interest among students in completing their studies as soon as possible. The fact remains that a large number of students still fail to graduate within the prescribed period, that drop-out is high, and that there are many students who have completed their course of study but have not taken their degree. Dropout is particularly high between the first and second semester and between the first and second year of study.

In view of this quantitative expansion and qualitative deterioration and of the trends noted from 1962 onwards, new principles have been introduced during the last two years.

The main objective is no longer quantitative growth in the number of institutions and enrolments but rather a better quality of higher education. The increased number of graduates is sought not through more institutions and students but through the exploitation of existing resources — better teaching, higher efficiency, lower drop-out, more modern methods.

An important factor of faster completion of studies — apart from the incentive system of scholarships and loans — is the newly introduced scheme which makes it possible for hard-working and able students to graduate even before completing the prescribed course of study.

Positive integration is beginning to develop in all Republics. However, the search for rational and economic solutions often meets with opposition, which makes it even harder to achieve practical results. Some Universities are more resolute in seeking practical solutions, while others are only cautiously considering how the problem should be approached. At the same time, a note of warning is needed; unprepared and hasty integrations may easily lead to undesirable consequences. Many institutions of higher education have pointed out that all major problems should be solved by co-operation between institutions from different Republics working in the same fields or scientific disciplines. Each Republic should decide in which areas independent effort is desirable and in which integration is preferable.

II

EQUALITY OF OPPORTUNITY

*Regional and social origin of students**

Professor Supek begins his discussion with the statement, which seems to hold true for most countries, that students come mainly from higher classes — not necessarily more wealthy classes but those in which the parents are themselves better educated. Elaborating this idea, the author quotes evidence from Yugoslavia.

Data on students' regional origin, compared with the national income of different Republics in 1961–62, do not seem, however, to confirm the above general statement. It is the less developed Republics of Yugoslavia which provide, proportionately, more students. This means that the pressure on higher education is at least partly determined by the degree of economic and social under-development of a given region:

Table 27. REGIONAL ORIGIN OF STUDENTS IN RELATION TO NATIONAL INCOME, 1961–62

	Number of students	Number of students per 10,000 population	National income *per capita* [old dinars]
Yugoslavia	157,539	85.1	164,650
Macedonia	12,904	91.8	105,303
Montenegro	5,863	124.1	112,733
Bosnia and Herzegovina	20,042	61.2	115,851
Serbia	71,731	94.0	144,576
Croatia	35,154	84.7	205,044
Slovenia	11,838	74.7	323,808

Source: M. Rašovič, "Regionalno porijeklo studenata Jugoslavije" (Regional Origin of Yugoslav Students), Belgrade, I.D.N., 1965.

* The survey which follows is based mainly on the data and conclusions given by Dr. Rudi Supek in his paper entitled "Sveučilišna politika obrazovanja, socijalno porijeklo studenata i uspjeh u studiranju" (Policy of University Education, Social Origin of Students and Success in Study), *Univerzitet Danas*, No. 6, Belgrade, 1967.

However, the greater proportion of students from the less developed Republics does not invalidate the statement that students are mainly recruited from higher classes in a given society: Rašović notes that "the greatest proportion of young people enrolling in institutions of higher education come from the parts of the country with larger urban units, from the economically developed regions, and from the coastal region of Yugoslavia; the smallest proportion comes from the under-developed continental regions". (Quoted by Supek).

But in speaking of the social origin of students it should be stressed that the Yugoslav official statistics are not at all accurate in defining socio-economic categories, that criteria have frequently changed, and that no meaningful comparisons can be made. In the Statistical Annex to this study we give some of the official data on the basis of which the above conclusions have been made. In drawing our own conclusions we have therefore been forced to rely on the results of some partial investigations made by V. Milić and Z. Steinman and by R. Supek.

C. Milić has found a trend towards increased enrolment of farmers' and workers' children between 1951 and 1957, with the proportion of children from the families of civil servants, white-collar workers, self-employed craftsmen and professional people declining. Z. Steinman has also noted an increase in the number of students coming from working-class families; according to her, the social origin of full-time students in Croatia changed as follows:

Table 28. CHANGES IN THE SOCIAL ORIGIN OF FULL-TIME STUDENTS, 1938–39/1960–61

Percentages

Father's occupation	1938–39	1950–51	1960–61
Worker	3	12	20
Civil servant or white-collar worker	50	51	41
Farmer	18	18	13
Self-employed craftsman or shopkeeper	15	7	3
Other (professional and similar)		8	19
Unknown		4	4

Another survey made by I.N.E., Berkeley, 1965, seems to confirm this figure of about 20% of students from working-class families. The results of that survey were the following:

8.6% of students came from unskilled workers' families;
12.4% of them came from skilled workers' families.

It follows from all the studies mentioned above that city people prefer to send their children to general secondary schools (grammar schools), while farmers rather send theirs to secondary technical and vocational schools. These latter schools are a much more important avenue towards higher education for young people with a rural background than they are for those whose background is urban.

Children from working-class families also reach higher education largely through secondary technical schools, while those from families with a higher social status or educational background usually reach higher education via grammar schools. The percentage of grammar school leavers among those enrolled in institutions of higher education decreases as one goes down the status ladder, ranging from parents with university backgrounds to unskilled workers. Almost 40% of students from unskilled workers' families, and almost 50% of those from rural homes, reach higher education via secondary technical schools. On the other hand, almost 90% of students from the families of people with university qualifications come to institutions of higher education as grammar school leavers.

Almost half of the children from working-class families, reaching Faculties through secondary technical schools, try to compensate for their social handicap by concentrating on Technical and Engineering Faculties. This can be illustrated by figures given by Z. Steinman for Zagreb University in 1959–1960:

Table 29. STUDENTS FROM WORKING-CLASS FAMILIES, ZAGREB UNIVERSITY, 1959–60

	Total	Working-class background	Percentage
Civil engineering	762	200	26.2
Mechanical engineering	956	247	25.8
Economics	1,786	441	24.7
Veterinary science	404	98	24.7
Forestry	545	177	21.5
Pharmacy	508	105	20.6
Electrical engineering	1,086	211	19.3
Technology	1,729	324	18.6
Agriculture	839	132	15.7
Dentistry	288	44	15.3
Medicine	1,621	247	15.2
Law	1,980	300	15.1
Arts and letters	2,601	374	14.3
Natural sciences and mathematics	991	187	18.8
Architecture	594	81	13.6

Source: Z. Steinman.

Without going into any further details, one may accept Professor Supek's conclusion that "the importance of social barriers between different strata or classes in this country is not so great as it is in some Western countries". Students usually choose the subject they will study on the basis of the prestige of a given occupation at any given time. Thus, in answer to the question how far the reform has made higher education accessible to people from all social strata, one might say that the aims of the reform have been reached. This is also borne out by evidence of another kind: if the grammar school is taken as an institution in which "higher classes" predominate, then the pattern of university enrolments can be said to have improved in favour of students with rural and working-

class backgrounds because the proportion of first-year students coming from grammar schools has been steadily declining:

Table 30. FIRST-YEAR STUDENTS COMING FROM GRAMMAR SCHOOLS, 1957–1966

Percentages

1957–1958	1958–1959	1959–1960	1960–1961	1961–1962	1962–1963	1963–1964	1964–1965	1965–1966
66	60	57	50	45	42	42	41	41

Geographical distribution of institutions

On page 50 a list was given of the newly opened Faculties, Colleges and Two-year Post-secondary Schools in Yugoslavia. The question now is whether this is in accordance with the proclaimed principles of the reform.

Before the reform was initiated, all expansion of higher education had been effected within the framework of the existing institutions, by enlarging existing Faculties and Universities. But it was felt that the best solutions could not be found solely along these lines. On the one hand, Faculties with an excessively high number of students have not proved very efficient: there are certain generally accepted standards of the size of Faculties which are regarded as optimum and which can be exceeded only under extreme pressure, and even then only temporarily. On the other hand, the concentration of the best brains in regions with Faculties and Universities puts other, less developed regions at an even greater disadvantage and blocks their progress. This development is particularly undesirable now that the system of local self-government and autonomous operation of enterprises is developing apace.

This is the reason why the expansion of the network of Faculties and Universities – and even more so the creation of the network of Two-year Post-secondary Schools – became a necessity. The main purpose was to satisfy all needs for qualified manpower equally in different parts of the country. An expanded network of university institutions in itself brings better opportunities for the higher education of greater numbers of people; it will continue to be an important factor, even when the students' material situation becomes much better than it is now. This deserves special mention now, when more and more people with secondary technical school backgrounds are pursuing higher education and when the grammar school is no longer the most popular type of secondary school.

Large urban and industrial concentrations have become attractive centres, capable of providing a favourable climate for university life, as regards both teaching and research. Such large centres, with their strong industrial foundations and rich cultural traditions, need university institutions if they are to become a focus of cultural, economic and social progress. These centres, therefore, provide the University with all the prerequisites for its proper functioning; but they also draw from the University everything necessary for their further development in all directions – the varied activities of students and teachers enrich their social life, while university graduates fill key positions in science and industry.

Wherever they live, students represent an active force in the cultural and political life of the region. This is all the more true of Yugoslav students today, as they live in a community in which everyone is not only allowed but actually expected to take an active part in all manifestations of cultural and political life.

Free from parochialism of any kind, all Universities in Yugoslavia are broadly conceived as national institutions. But each of them can best study and reflect the specific historical developments and contemporary situations in the region in which it operates. In this way, with Faculties in different parts of the country, an exhaustive presentation of our past, a critical examination of our present, and a realistic view of our future becomes a distinct possibility. Different regions can thus be measured with the same yardstick, disporportions can be eliminated, and equal conditions can be created for people everywhere.

Those were the aims of the reform of higher education. Let us now see how well they have been reached.

Practically all new Faculties are located in industrial and cultural centres in the Provinces, in the parts of the country where the present or future manpower needs are greatest. Before the introduction of the reform, Faculties and Colleges had been located exclusively in the most important urban centres: they were confined to eight cities, six of which were Republic capitals. During the implementation of the reforms, up to 1963, Faculties and Colleges were established in 14 more towns. Some Faculties opened Branches in other localities. Two-year Post-secondary Schools were opened in 59 industrial and cultural centres, mainly in provincial towns.

In this way, one of the aims of the reform was achieved: the existing university institutions were relieved of the pressure of numbers, while at the same time better opportunities for higher education were offered to people living outside the largest urban centres. Students in these new institutions remained closer to the environment from which they came, and to the local industry and social services. This was also more generally important, as the establishment of links between higher education and practical life was one of the fundamental principles of the reform.

We have already mentionned (cf. p. 52) one aspect of the financing of higher education which may have been responsible for certain "distortions" of the proclaimed principles.

But on the whole it can be said that the criticism against the new geographical distribution of Faculties was not justified (even when it invoked the shortage of funds or their fragmentation) and was largely based on the conservative feelings in certain older and longer established Faculties.

The new distribution was necessary, and its results must be deemed favourable. The weaknesses which are still felt are due to certain other developments, primarily of a general economic and financial nature, operating outside the basic framework of the reform of higher education*.

* The soundness of the general orientation can be illustrated by the examples of the newly established Faculty of Mining at Tuzla (working in close co-operation with the Institute of Mining and Technological Research) and the Faculty of Metallurgy at Zenica (linked with the Institute of Metallurgical Research).

The higher education of women

The main question to be considered here is whether the reform has done anything to facilitate women's access to higher education. In principle, of course, women's admission to institutions of higher education in Yugoslavia, as a socialist country, is unchallenged.

This does not mean however, that it is "superfluous to fight for women's highest education and for the practical realization of the rights guaranteed to them in the Constitution and in laws".*

The question, therefore, is not so much whether women are freely admitted to institutions of higher education but rather whether they can freely choose their profession through the choice of a given branch of study within the higher education set-up.

This is precisely the point at which real inequality of opportunity can arise. "For why should women's interests be limited to the teaching profession, why should they only take up medicine – and more specifically, dentistry; why should they not aspire to any other posts, and not only the clerical ones, if the gates of all professions were widely open to them?"**

We shall therefore discuss the question on its own merits, irrespective of the reform which was not directed towards this problem, either in intention or in practice.

Table 31 shows that the proportion of women students in institutions of higher education during the chosen period of ten years was between 28 and 33%, which can be regarded as satisfactory, since it was not appreciably below the figures for some other countries (except the Soviet Union)***:

The United States	35.2
The Soviet Union	42.5
Sweden	33.3
Romania	33.3
Bulgaria	34.9

In many other countries the proportion of women students was much lower than in Yugoslavia.

But the representation of women varies with the level of institution. The percentage of women is highest in Two-year Post-secondary Schools (29–35%), then at Faculties (29–33%), while at Colleges it is fairly low (6–19%). The reason for this can be found in the choice of the field of study. As we shall see later, Two-year Post-secondary Schools are mainly in the social science field (teaching, economics, etc.), while Colleges (with the exception of Colleges of Education) are mainly devoted to engineering.

* Dr. Vida E. Marković, "Higher Education and the Woman", paper read at the IXth International Seminar "University Today", Dubrovnik, June 1964.

** *Ibid.*

*** *Ibid.*

One interesting observation can be made from the table, namely, that the share of women students was smaller during the so-called boom of higher education (1961–63), while in recent years their proportion has begun to rise again.

Table 31. BREAKDOWN OF STUDENTS BY SEX, 1956–1966

	Total	Men	Women	% of women
Total				
1956–57	71,852	49,562	22,290	31
1957–58	82,882	57,991	24,891	30
1958–59	96,890	67,253	29,637	30
1959–60	104,786	73,148	31,638	32
1960–61	140,574	99,874	40,700	28
1961–62	158,010	111,476	46,534	29
1962–63	160,092	112,385	47,707	29
1963–64	166,595	111,785	48,810	30
1964–65	170,499	117,146	53,553	31
1965–66	184,923	122,912	62,011	33
Faculties				
1956–57	60,246	42,460	17,786	29
1957–58	69,087	49,130	19,957	29
1958–59	78,904	55,561	23,343	29
1959–60	82,927	58,729	24,198	29
1960–61	104,875	74,314	30,561	30
1961–62	112,005	78,533	33,772	30
1962–63	106,225	74,235	31,990	30
1963–64	99,056	68,373	30,683	31
1964–65	98,631	67,294	31,337	32
1965–66	107,329	71,590	35,739	33
Colleges				
1956–57	292	266	26	9
1957–58	303	266	37	12
1958–59	464	412	52	11
1959–60	1,161	1,084	77	7
1960–61	2,088	1,968	120	6
1961–62	3,461	3,159	302	9
1962–63	4,268	3,623	645	15
1963–64	6,177	5,150	1,027	16
1964–65	6,815	5,497	1,318	19
1965–66	6,930	5,591	1,339	19
Two-Year Post-secondary Schools				
1956–57	9,994	5,992	4,002	40
1957–58	12,098	7,698	4,400	36
1958–59	16,406	10,406	5,739	35
1959–60	19,286	12,432	6,854	35
1960–61	32,193	22,706	9,487	29
1961–62	40,898	28,762	12,136	29
1962–63	47,782	33,383	14,399	30
1963–64	53,381	37,028	16,353	30
1964–65	63,073	42,889	20,184	32
1965–66	68,650	44,502	24,148	35

The preferential choice of different fields of study among women students is shown in the following table:

Table 32. PERCENTAGE OF WOMEN IN TOTAL ENROLMENTS, BY FACULTIES, 1956–57 – 1965–66

Faculty	1956–57	1960–61	Average 1961–62	1962–63	1965–66
Total	29	30	30	30	33
Agriculture and forestry	7	11	13	14	15
Veterinary science	2	8	9	10	16
Engineering	11	14	16	16	18
Economics	27	31	39	30	33
Law	23	25	27	27	32
Medicine	27	33	37	38	43
Dentistry	34	41	40	44	52
Pharmacy	74	74	75	77	77
Arts and letters	55	56	54	54	57
Natural sciences and mathematics	51	37	38	39	39

Topping the list is the Faculty of Pharmacy; the next is the Faculty of Arts and Letters, closely followed by the Faculty of Dentistry. These are the three Faculties in which women account for more than 50% of total enrolments.

In the next group we find Faculties of Medicine, Natural Sciences and Mathematics, Economics and Law, where the proportion of women is between 30 and 43%. In the third group are Faculties of Engineering, Veterinary Science, and Agriculture and Forestry.

The problems of women students are general problems of women's participation in professional life and they need not be elaborated here. Let us therefore conclude with the words of Dr. Vida E. Marković:

> "Pharmacy, arts and letters and dentistry have come to be regarded as fields that give women ample scope of activity. Economics and law prepare them for office jobs. Engineering Faculties are thought to give them less opportunities as these fields are regarded as masculine. That is why practically no scholarships are given to women students at Engineering Faculties."

There are, however, signs that the situation may be changing. While the three Faculties most popular among women in 1956–57 were:

Arts and letters	7,021 or 39% of all women students
Law	2,307 or 13% of all women students
Economics	1,869 or 11% of all women students.

The situation in 1965–66 was different:

Arts and letters	7,795 or 26 % of all women students
Economics	6,021 or 17 % of all women students
Engineering	5,700 or 16 % of all women students.

These figures may be an indication that the process of women's more active participation in the technical field has begun.

School background of students (*enrolment requirements*)

Until 1958 only secondary school certificate holders (notably those from grammar schools and other corresponding schools) could enrol at Faculties. There were no fixed criteria for the types of schools considered as adequate for a university course and Faculties changed their requirements from year to year as the number of applicants fluctuated. On 29th May, 1957, the Federal Executive Council decided to limit enrolments at some Faculties. But since the enrolment of those who had passed out from secondary school with the highest and second highest grades remained unlimited, the capacities of the Faculties with limited enrolment were soon filled and all other candidates were forced to choose one of the Faculties with unlimited admission. The pressure of numbers at such Faculties became so great that normal teaching was almost impossible. "Entrance examinations" were at that time exceptions, held mainly at those Faculties where space was not sufficient to accommodate all students.

In the academic year 1958–59, the question of University admission requirements again arose. The Federal Executive Council's earlier decision was then modified, so that only secondary school leavers with top examination results could enrol without any restrictions. Maximum enrolment figures were fixed for certain Engineering and Medical Faculties.

Then came the reform and the Federal Executive Council Decision on Competitive Enrolment at Faculties, Colleges and Art Academies. According to that decision, University enrolment became open also to those who lacked the prescribed secondary qualifications, provided they possessed some practical experience and passed the University Entrance Examination. The 1960 Act gave legal force to this decision, providing (in Article 24) for university enrolment of "persons over 18 years of age, without the prescribed secondary education, but with a certain amout of practical experience, provided they pass the University Entrance Examination or in other ways demonstrate their knowledge and ability to follow an academic course".

From 1950–1960 onwards, candidates without formal educational qualifications could also enrol, and from 1960–61 the same facilities were granted to those entering Two-year Post-secondary Schools. In the beginning there were cases of abuse of this rule, as some people thought that the regulation was meant to enable anybody to study, regardless of his abilities, whereas in fact it was intended only for those gifted individuals who had missed secondary education but who otherwise possessed the necessary knowledge and ability, demonstrated through practical work and the entrance examination, to follow an academic course successfully.

Until 1958–59, only secondary school leavers were admitted to institutions of higher education. They included the leavers from grammar schools

Table 33. FULL-TIME FIRST-YEAR STUDENTS WITHOUT NORMALLY PRESCRIBED QUALIFICATIONS – BY EDUCATIONAL BACKGROUND, 1958–59 – 1965–66

	Total	Incomplete secondary education	Vocational school (for skilled workers)	School for highly skilled workers	Elementary school	Incomplete elementary education	Percentage with inadequate secondary education
Total							
1958–59	30,226	1,063	230	–	–	–	4
1959–60	32,269	484	747	–	–	–	4
1960–61	39,791	582	1,672	–	–	–	6
1961–62	45,311	513	2,198	477	885	100	7
1962–63	48,245	1,116	2,003	328	628	33	7
1963–64	48,818	481	2,032	248	417	39	7
1964–65	51,006	325	1,429	204	520	9	5
1965–66	63,024	246	952	123	336	22	2.7
Faculties							
1958–59	23,517	5	11	–	–	–	–
1959–60	24,443	80	84	–	–	–	0.6
1960–61	29,150	67	143	–	–	–	0.7
1961–62	32,902	62	329	19	72	3	1.4
1962–63	32,735	98	171	10	73	4	1.0
1963–64	30,309	193	112	37	38	–	1.2
1964–65	31,951	28	113	4	28	1	0.6
1965–66	38,686	39	61	9	19	15	0.4

Table 33. (Contd.)

	Total	Incomplete secondary education	Vocational school (for skilled workers)	School for highly skilled workers	Elementary school	Incomplete elementary education	Percentage with inadequate secondary education
Colleges							
1958–59	262	4	39	–	–	–	16
1959–60	553	25	152	–	–	–	32
1960–61	768	48	228	–	–	–	36
1961–62	949	87	209	26	46	12	39
1962–63	820	21	140	18	41	9	28
1963–64	1,484	22	304	47	34	8	28
1964–65	1,554	21	173	49	62	2	19
1965–66	1,561	24	212	25	20	2	18
Two-Year Post-secondary Schools							
1958–59	6,106	1,038	177	–	–	–	20
1959–60	6,877	363	507	–	–	–	12
1960–61	9,515	455	1,293	–	–	–	18
1961–62	10,887	348	1,650	432	759	83	24
1962–63	14,139	302	1,687	300	503	19	20
1963–64	16,531	242	1,603	164	341	30	14
1964–65	16,935	259	1,130	150	421	6	12
1965–66	22,161	177	673	89	292	5	5

and secondary technical schools (engineering, business management, agricultural, medical) and others corresponding to this level. In 1958–59, admission was granted to Trade Training School leavers, and in 1961–62 to every person, regardless of his formal educational qualifications, who could demonstrate his knowledge and ability to follow an academic course of study.

In terms of the Decision of Enrolment, secondary schools were not only grammar and technical schools but also vocational and art schools and primary teacher training schools if their course of study was at least three years and if complete elementary education was a condition of enrolment. This made it possible for leavers from Trade Training Schools and vocational schools (industrial, building, mining, etc.) to follow an academic course. The 1958 General Law on Education gave all such schools the status of secondary schools, whose leavers could freely enrol at the university.

But there are two aspects to this problem:

a) The basic idea that higher education should be open to people without formal educational qualifications, provided they possess practical experience and knowledge that can be demonstrated at the entrance examination, has remained alive until the present day, although figures in the preceding Tables show that the numbers availing themselves of this opportunity are declining.

b) Restrictive measures were imposed, on the one hand, by the general economic and social situation in the country, and on the other by the need to emphasize quality as against quantity in higher education.

It can be said, therefore, that restrictive measures and qualifying examinations were intended to ensure the most favourable distribution of students by Faculties, to improve the selection procedure, to raise the standard of learning, and to match enrolments to the capacity of all Faculties.

The present situation is that admission requirements vary from one institution to another.

At most Faculties in Croatia, qualifying examinations were taken in 1965–66 by all candidates, including those with top grades in their school-leaving certificates. The number of enrolments was in most cases not fixed in advance, and all those who successfully passed qualifying and entrance examinations were admitted. Only a few of the Faculties still had numerical restrictions, but admission was again by the results of the qualifying examination, regardless of the success in secondary schools. In Serbia we find a combination of free admission and selection by success at qualifying examinations (for those with lower grades in the secondary school). However, the principle has not been very consistently applied at all Universities in Serbia. According to this procedure, there are two principles which operate simultaneously: the principle of fixed quotas is meant to regulate the flow of enrolments in accordance with the capacities of the institutions of higher education; the principle of selection acts as a corrective to the principle of fixed quotas. This is achieved by taking all candidates with top secondary school grades automatically and the remaining number needed to fill the institution to capacity on the basis of qualifying examination results. A

different approach can be illustrated by quoting from the information booklet issued by the University of Zagreb on the occasion of the 1967–68 enrolment.

Admission requirements for Faculties and Colleges within the jurisdiction of Zagreb University remain the same in 1967–68 as they were during the last academic year.

Admission is, as a rule, by qualifying examination for candidates with adequate secondary qualifications, and by entrance examination for those without such qualifications.

The purpose of the qualifying examination is to check the candidate's knowledge of the subjects important for the course of study he has chosen and to assure his success in the study. The purpose of the entrance examination, on the other hand, is to check the candidate's general knowledge indispensable for an academic course but not formally established by a secondary school leaving certificate.

Only exceptionally, some institutions will also introduce differential examinations to check the candidate's knowledge of certain subjects not covered by his earlier education and yet indispensable for the kind of academic courses given by these institutions. This examination is largely identical with the entrance examination for candidates lacking adequate secondary qualifications.

The conditions of enrolment are of three kinds:

i) Conditions for those holding a certificate from a school regarded as adequate for the Faculty in question;

ii) Conditions for those holding a certificate from a school not regarded as adequate;

iii) Conditions for candidates without formal education above primary level.

In connection with these conditions, the following principles are followed by most Faculties:

i) Candidates with adequate secondary qualifications take a qualifying examination. But certain categories of candidates are exempt from this examination at some of the Faculties. Thus, there are five Faculties and Colleges which have no qualifying examinations for candidates with adequate secondary qualifications; at these institutions, admission of such candidates is free (Faculty of Agriculture, Faculty of Forestry, Faculty of Law – Split, College of Agriculture – Osijek, and Faculty of Economics – Osijek). Twelve institutions exempt candidates with good grades in their school-leaving certificates from qualifying examinations; some require a good overall success in secondary education and others good grades in certain subjects. These institutions are: Faculty of Law – Zagreb, Faculty of Economics – Zagreb, Faculty of Natural Sciences and Mathematics – Zagreb, Faculty of Pharmacy and Biochemistry – Zagreb, Faculty of Geodesy – Zagreb, Faculty of Technology – Sisak branch, Faculty of Political Science – Zagreb, College of Administration – Zagreb, Faculty of Mechanical Engineering – Rijeka, Faculty of Economics – Rijeka, Faculty of Arts and Letters – Zadar, Faculty of Electrical Engineering – Split.

ii) Candidates holding certificates from secondary schools not regarded as adequate are as a rule required to take entrance examinations which vary to a certain extent from one institution to another. In addition, some institutions require no practical experience, others require working experience on specific jobs, and others still only working experience as such, irrespective of the kind of work involved. The duration of the working experience required ranges up to 4 years. The entrance examination for this category is largely identical with the kind of examination prescribed for candidates without secondary education; only exceptionally is it somewhat less extensive. There are also a few rare cases in which these candidates take a qualifying instead of an entrance examination.

iii) The criteria of admission for candidates without secondary education are most uniform, because they are regulated by law. At all institutions of higher learning such candidates are required to take an entrance examination, provided they satisfy the following conditions: that they are over 18 years old, that they have completed compulsory primary education, and that they have working experience. The experience in this case should be between 2 and 5 years, mainly on specific jobs.

Comparing the 1967–68 admission requirements with those of the year before, the following differences can be noted:

a) Two Faculties (Agriculture and Forestry) have this year abolished qualifying examinations and introduced the system of free admission; three Faculties and Colleges (College of Administration, Faculty of Economics — Rijeka, and Faculty of Arts and Letters — Zadar) have introduced it, exempting some categories of candidates.

b) The Faculty of Economics — Zagreb, has this year exempted from the qualifying examination those candidates who obtained the highest and second highest grades at the school-leaving examination.

c) The Faculty of Arts and Letters in Zagreb, as well as the Faculties of Veterinary Science and Mining in Zagreb, have this year decided not to exempt any candidates from qualifying examinations, although they used to do so in previous years.

d) The Faculty of Political Science in Zagreb has this year exempted from qualifying examinations only those with top grades from the secondary school, while the year before candidates with the second highest grade were also exempted.

It should be stated in all fairness that the Universities have shown themselves willing to accept students without the necessary formal qualifications, provided they could demonstrate their knowledge at an entrance examination. Their admission without this knowledge would have been detrimental to themselves, the university, and the community. The amount of knowledge required is that which can really guarantee the candidate's ability to follow an academic course.

It should also be noted that the qualifying examination has proved useful and necessary. This is understandable if one remembers that without it up to 50% of first-year students fail to pass into the second year. The pre-admission checking of their knowledge is particularly useful when candidates know beforehand what material the examination will cover.

We can conclude the discussion of this question by saying that a need is still felt for a better preparation of candidates for university studies.

This would improve the quality of higher education, shorten the actual length of study, and reduce the high rate of drop-out. What is also needed is the determination of optimum capacities of different Faculties and a close co-ordination between Faculties of the same type.

As for the entrance examinations for candidates with inadequate secondary qualifications, these should remain as strict as they have been so far, remembering that the intention of the reform has not been to allow anybody who so wishes to go to the university but to make it possible for serious and gifted people who have not had an opportunity for secondary education to acquire higher education.

Part-time study

The introduction of part-time study as a component part of the activities of institutions of higher education should be regarded as an important step in the reform of higher education, which brings a new quality into the system. It enables not only people in regular employment but also some groups of those not employed to pursue an academic course.

Before the academic year 1960–61, part-time study existed only at Social Science Faculties (Arts and Letters, Law, Economics). The Federal Assembly's Resolution on the Education of Technical and Scientific Manpower recommended, and the 1960 Act prescribed, the introduction of part-time study at all Faculties, Colleges and Two-year Post-secondary Schools. (The Executive Councils of different Republics were authorized to postpone it temporarily at some institutions). At the same time, the conditions of admission, teaching and assistance to part-time students were also prescribed.

Enrolment trends among part-time students largely corresponded to those noted for full-time students, as seen in the following table:

Table 34. INDEX OF PART-TIME ENROLMENTS IN RELATION TO TOTAL FIRST-YEAR ENROLMENTS, 1957–1967

Index 1957–58 = 100

Number	1958-1959	1959-1960	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967
Total									
Part-time	147	172	380	455	446	446	528	522	521
Part-time first-year	168	200	452	483	423	448	552	506	479
Faculties									
Part-time	139	156	320	359	295	264	265	260	238
Part-time first-year	175	185	407	366	253	223	235	208	166
Colleges									
Part-time	.	.	.	.	.	.	.	.	.
Part-time first-year	.	.	.	.	.	.	.	.	.
Two-year Post-secondary Schools									
Part-time	178	217	510	754	800	860	1,117	1,112	1,177
Part-time first-year	193	224	533	700	737	853	1,138	1,051	1,070

. = Figures not meaningfull.

The following observations can be made about the system of part-time study:

i) There has been a general downward trend in enrolments ever since 1962–63.

The 1962–63 index (1957–58 = 100) was 446, while the 1966–67 index (1962–63 = 100) was 117.

The trend is even more pronounced in the case of first-year enrolments: the increase until 1962–63 was almost 4.5 times; after that year, until 1966–67, the average increase was no more than 7 %.

ii) The downward trend has been recorded in all types of institutions of higher learning; in some of them there has been an actual decrease in part-time enrolments.

Table 35 gives a review of part-time enrolments at Faculties, Colleges and Two-year Post-secondary Schools:

Table 35. PART-TIME ENROLMENTS, 1962–63 – 1966–67

	Index based on 1957–58 = 100		Index based on	
			1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	1966–67
Faculties				
Total part-time enrolments	295	264	81	91
First-year part-time enrolments	253	223	65	74
Colleges				
Total part-time enrolments	.	.	157	111
First-year part-time enrolments	.	.	152	91
Two-year Post-secondary Schools				
Total part-time enrolments	800	866	147	136
First-year part-time enrolments	737	853	145	125

. = Figures not meaningful.

From the very beginning, the Faculties accepted part-time study as a convenient way of training highly qualified personnel. Some of them introduced different schemes designed to help part-time students: these consisted mainly in afternoon or evening classes for part-time students living in the town in which the Faculty was situated; very few Faculties, however, organised courses during winter or summer vacations, in September, etc. Another way in which part-time students were helped was by means of a special regime of part-time study. The rather strict regime designed for full-time students, which was at first applied also to part-time students, was too hard for them. That is why special provisions were made in the 1960 Act, making it possible for part-time students to enrol only once a year,

to take examinations during specially arranged periods, etc. It should be noted, however, that the amount of help given to part-time students was not the same at all Faculties.

Another observation which might be made is that the system of part-time study has not developed to the extent envisaged by its sponsors. The reasons for this are varied. First of all, it has not been completely evolved from the organisational point of view; second, the attitude of enterprises to their employees enrolled as part-time students has not been altogether favourable and encouraging; the third, and perhaps the most important, factor has been the largely unsettled question of financing this particular form of education.

It is difficult to say now which causes operated and in what sequence, but the fact remains that part-time study now exists mainly at Two-year Post-secondary Schools and not at all institutions of higher learning. This is illustrated by the figures given in the following table:

Table 36. PART-TIME ENROLMENTS BY CATEGORY OF INSTITUTIONS, 1957–1967

	Percentages* of total enrolments									
	1957-1958	1958-1959	1959-1960	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967
Faculties										
Total part-time enrolments	71	67	65	62	56	47	42	36	35	32
First-year enrolments	67	62	63	61	51	40	33	29	27	24
Colleges										
Total part-time enrolments	0	0	0	0	1	3	4	5	5	4
First-year enrolments	0	0	0	0	2	3	4	4	4	4
Two-year Post-sec. Schools										
Total part-time enrolments	27	32	34	37	42	49	53	58	59	62
First-year enrolments	32	37	36	38	46	56	61	67	67	71

* Exclusive of Art Academies.

The table shows quite clearly that the greatest number of part-time students — both total and first-year enrolments — were enrolled, in 1966–67, at Two-year Post-secondary Schools.

The structure of part-time enrolments in different types of institutions of higher education is thus far from satisfactory. But it is difficult to say whether the reasons for part-time students leaving the Faculties are confined to the three factors mentioned above, or whether they prefer Two-year Post-secondary Schools because these provide better facilities for part-time study. It is quite possible that the three factors usually mentioned are only taken by Faculties as a welcome excuse, while the real reason may be

that they are conservative institutions which have not given part-time study a chance to develop.

The fact remains that part-time study, until 1963, showed rather meagre results, as seen from the following data:

Fifty-four per cent of the 1960–61 generation of part-time students had not passed a single examination two and a half years after enrolment; 52% of the 1961–62 generation had not passed a single examination after one and a half years of study; only 3.1% of this generation moved up to the second year of study.*

The system of part-time study at Two-year Post-secondary Schools poses questions of its own. The results which it produces are quantitative rather than qualitative: the efficiency of study is largely unsatisfactory. Some of the Two-year Post-secondary Schools have such an extended network of branch centres that it is difficult to see how a properly conducted course of study could be organised even if the conditions were ideal – which they are not. In order to put the system of part-time study at Two-year Post-secondary Schools into its proper perspective, it is necessary in the first place to reduce it to realistic proportions, determined by what the schools themselves feel they can do, which will then bring about the desired quality.

At this point, something should be said also about part-time study branch centres. In the beginning, while Faculties were still interested in part-time education, or at least formally prepared to implement the law, they took an active part in running such centres organised by local authorities or enterprises. However, as fewer and fewer part-time students enrolled at Faculties, part-time study centres were gradually handed over to Two-year Post-secondary Schools to run. Under the old system of educational financing, many Communes (local authorities) were eager to establish such branch centres. With the change in the system of financing, however, some of the branch centres for part-time study were dissolved and in others students were required to pay tuition fees. Nevertheless, it is interesting to note that when the law enabled Two-year Post-secondary Schools to run such centres, 87 centres were opened in Serbia and 95 in Croatia. At the beginning of 1966–67, the Federal Secretariat for Education and Culture recorded 236 centres for part-time study with some 12,000 students. As regards the tuition fees, there are schools or centres where the students do not have to pay anything because their companies support the school financially; but there are others where they have to pay up to 300,000 old dinars (thus the fees at the Two-year Post-secondary Textile School at Duga Resa are 300,000 old dinars per student, and at the Two-year Post-secondary School of Agriculture at Maribor they are 200,000 old dinars per student).**

If the system of part-time study is to continue, and if it is regarded as useful and necessary (as in our view, it is), then the following measures should be taken to make it more efficient:

* According to Ivo Zuvela, "Prvi rezultati reforme visokoskolskog obrazovanja u Jugoslaviji" (The First Results of the Higher Education Reform in Yugoslavia), *Univerzitet danas*, 5–6, 1963.

** *Aktuelna pitanja izgradnje sistema obrazovanja i vaspitanja* (Topical Issues in the Development of the Educational System), Belgrade 1967, p. 187.

i) better organised facilities should be provided for part-time study;

ii) the rights and duties of part-time students should be more accurately defined;

iii) permanent source of finance should be found and an adequate financing system set up.

It has been suggested that the rights of part-time students should include the following: paid leave of absence from the job during the period of examination; paid leave during the attendance of compulsory seminars and courses; paid leave for a brief period before the examination; payment of expenses (travel, etc.) incurred in connection with examinations taken away from their permanent home; shorter working hours on days when there are lectures for part-time students; paid leave for the preparation of the diploma paper; longer unpaid leave before the examination; exemption from overtime work, etc.

Their obligations would be to finish their studies within the prescribed time; to take all examinations in time; to refund the expenses if they failed to take an examination without good reasons; to refund travel and other allowances if they failed to attend the compulsory courses and seminars; to promise to continue to work with their firm for at least as long as they were receiving benefits; to keep their firm or organisation informed about their progress in study and success at examinations; to accept a suitable job after graduation, etc.

It is also important to devise new and more suitable forms of teaching for part-time students. A new organisation of part-time study is needed, perhaps one in which periods of continued study without work would alternate with those of continued work without study. Study by correspondence which had shown good results in some foreign countries, has not even been tried in Yugoslavia.

Although part-time study is one of the fundamental activities of institutions of higher education, Faculties have so far neglected to include it in their financial estimates and have therefore received no special funds for this purpose. That is why any extra form of assistance to part-time students has been dependent on the funds received from additional sources — grants by business, social and political organisations and Republic authorities, and contributions by part-time students themselves. Neither business, social and political organisations nor the Republic authorities have, unfortunately, shown enough interest in helping part-time students; but it should also be said in all fairness that Faculties were not very persistent either in seeking additional funds for these activities. The result is that the financial burden on students becomes so heavy that many of them just cannot stand it and give up studying. On the other hand, there are cases of Faculties which organise special courses for part-time students free of charge — and yet the response by the students is anything but satisfactory.

The prevailing view now is that all interested parties should contribute financially in proportion to their interest in part-time education. This attitude is also justified by the present structure of part-time students: they include people in whose further education their firms are interested (and which they are prepared to pay for), as well as those who study only in their own personal interests (to improve their social status, to get better jobs, to qualify for higher pension rates upon requirement, etc.).

In view of the advantages offered by the system of part-time study, which enables adults to acquire the highest qualifications without actually leaving their jobs for a period of study, and in view of the growing number of people involved, much more attention will have to be paid to this form of education than has been done so far. The assistance to part-time students, given by Faculties, local authorities and enterprises, though significant, has not been sufficient nor has it been provided in the most effective manner. Besides, no real part-time study is possible without a scheme designed to help students in their work and in the preparation of examinations. Faculties themselves will therefore have to work out practical measures to support and further develop the useful institution of part-time study. Facilities for part-time study have opened the Faculties to a large number of students without the minimum qualifications (education, knowledge, business experience, etc.). In spite of the wish to study, these circumstances have led to an immediate loss of interest.

Everything that has been said here points to the need to examine the problems of part-time study in greater detail and to reach conclusions concerning the duties and obligations of different institutions and of part-time students themselves. In this way, assistance to students could be made more effective, while at the same time it would be given only to serious students who deserve to be helped and in whose further education society is interested.

III

CONTENT AND STRUCTURE OF STUDY

The chapter which follows will be devoted to one of the major features of the reform of higher education – to the introduction of a three-level system of higher education. Closely connected with this is the question of Two-year Post-secondary Schools.

The three-level system of higher education was designed to prepare graduates with different qualifications quickly and efficiently. The idea was to change the pattern of skills of personnel trained at Faculties, Colleges and Art Academies and to adapt them as far as possible to the requirements of the economy and social services.

The inclusion of Two-year Post-secondary Schools in the system of higher education and the introduction of the first level of study (corresponding to Two-year Post-secondary Schools) at Faculties was meant to contribute to a comprehensive "flexible system which will always make it possible for students to proceed to a higher level at which they can supplement the knowledge gained at the level below it".

The introduction of three-level education – First level of Faculty study

Following the 1958 Recommendation of the Federal Assembly and the promulgation of the 1960 Act, intensive preparations were begun for the introduction of a system of education at three levels. Since each level of higher education was supposed to be self-contained and to provide students with the knowledge and skills needed for certain jobs in industry and social services, the introduction of the first level entailed a fairly far-reaching revision of the Faculty syllabuses and curricula and of the organisation of teaching.

It may be recalled that the first level was designed to produce graduates qualified to organise and effect production processes of a certain kind; the second level, on the other hand, was to produce graduates of a broader range who could successfully deal with wider aspects of organisation and production and could solve problems of the relation between different production factors.

Another reason for introducing first-level study was that the comprehensive four-year course did not cater for students who had no desire, inclination or ability for a course of that length and who therefore dropped out half way through their studies.

Reference should be made at this point to what has been called "*the principle of inversion*", under which certain subjects and skills formerly taught during the later years of study should now be brought forward to the first level with a view to preparing graduates at that level for specified jobs in various occupations. This point is dealt with more fully in the section entitled "Syllabus and curriculum changes" (p. 93) and we therefore confine ourselves at this stage to considering the difficulties experienced in introducing and subsequently developing the first level of higher education.

Opposition to the first level was manifested by the Faculties from the outset. They felt that it was not necessary for them to train people with post-secondary qualifications when a well developed network of Two-year Post-secondary Schools was already doing the same job. Faculties claimed that it was best for them to go on training graduates of the traditional kind, while narrower specialists with post-secondary qualifications would be trained by the Two-year Post-secondary Schools.

But surveys in industrial and business organisations showed that there was a real need for personnel between the secondary and university levels of qualification who could be trained at Post-secondary Schools or in first-level Faculty courses.

Those Faculties which agreed to organise their teaching at three levels, on the other hand, thought that it was sufficient for this purpose to invert the sequence of subjects.

After a while, however, the idea that the division was justifiable became generally accepted and the actual introduction of three-level study depended merely on material and personnel resources.

The first Yugoslav University to introduce the three levels of study was the University of Ljubljana; by 1960–61 practically all its Faculties had changed their curricula in accordance with the new scheme of study. Belgrade University introduced the first level in 13 of its Faculties in 1960–61; in 1961–62, nine more Faculties followed suit. The University of Novi Sad introduced the first level in all Faculties except Medicine in 1961–62. Similar developments were recorded in all the other Universities in Yugoslavia.

The extent to which the three-level system spread among Faculties, however, varied from one University to another. At one end of the scale came the University of Ljubljana where all the Faculties were organised on the new system, and the University of Belgrade, where the hold of the new system was equally strong, while at the other end came Zagreb University where only four out of 26 institutions adopted the three-level system, while 21 had no division into levels and one had the first and second level only. Half the Faculties at the University of Sarajevo adopted the system and half did not.

The number of institutions offering first-level courses grew fairly fast, as can be seen from the following survey:

1960–61: 31 Faculties
1961–62: 58 Faculties
1962–63: 54 Faculties
1964–65: 71 Institutions out of 124 (excluding Two-year Post-secondary Schools)

1965–66: 53 Institutions out of 127, as follows:
46 Faculties out of 97
3 Colleges out of 16
4 Art Academies out of 14.

It will be seen that in the last two years the number of institutions offering first-level courses fell.

Discussions about the feasibility of first-level study began again in 1961–62. The fact that not all Faculties of the same kind had introduced first-level courses led to controversy and discussion inside the Faculties which had. Not infrequently such discussions were an echo of the debates at Inter-Faculty Conferences, meetings of professional societies, student gatherings, etc. Thus, for instance, the Inter-Faculty Conference of Students of Civil Engineering held on 22nd December, 1962, adopted the motion that the first level of study should be abandoned at all Faculties of Engineering in the country. Similar motions were carried by conferences of a number of professional bodies and associations in 1962, such as the societies of metallurgists, civil engineers, forestry engineers, mining engineers, etc. Such moves resulted in the abolition of first-level courses at some Faculties in 1962–63 and in the running of parallel comprehensive second-level study, along with the first-level course, at others.

What was the problem, then? Where was the source of misunderstanding? In our view, it was the contradiction between the expectations of the sponsors of the reform in introducing the first level of study and the actual needs of the economy and society (including the students themselves).

It seems, however, that the views advocating the division proved unfounded after only three years of the experiment. In 1962–63 it was already pointed out that the main difficulty in connection with the three-level division was that of the pattern of skills of graduates produced at different levels. (Thus we again meet the often repeated problem of manpower planning — this time in terms of differentiation of levels). The question was raised whether first-level graduates would be acceptable for the economy, that is, whether they would be able to find suitable jobs.

The introduction of the first level of study represented a major reorganisation of Faculty teaching, which should have been based on an analysis in depth of occupations, manpower requirements and teaching contents. However, the time was short and no adequate models of a similar kind existed that could be imitated. Modifications in Faculty curricula were quite radical and opposition from individual teachers was only to be expected. All these factors combined to produce difficulties and problems which were both objective (material, financial and staff difficulties) and subjective (unsuitable curricula, excessive demands on students).

The problems of first-level were discussed at the VIIth Plenary Meeting of the Federation of Yugoslav Universities (2nd and 3rd October, 1964) where the following opinions were heard:

> "... We know that some Faculties have introduced first-level courses under a certain amount of pressure... I have the impression that there are still uncertainties about this level... I do not think that we should now exert pressure on the Universities and Faculties which have not yet introduced it to do so. We should refrain from doing this particularly because by Law this level is optional...* ".

* Professor Makso Šnuderl, speaking on new University and Faculty statutes.

"... The Faculty of Mechanical Engineering in Ljubljana was among the first to welcome and introduce three-level education. Why? Because we are convinced that the first-level study produces engineers needed in practice. But it should be added, perhaps, that they have not sought employment in sufficient numbers. At least not to the extent that we expected...* ".

"... As for the three-level education and discussions about the first level of study, I feel that there are certain things which have not been made sufficiently clear. It should be emphasized, first, that no Federal document speaks about the obligatory introduction of the first-level courses; all documents give it as an optional possibility. But I agree with what has been said here about a certain amount of pressure... We have learned now that it was precisely this pressure that has created many of the problems... The abolition of the first level would be an undemocratic measure against those Faculties that have introduced it and that have achieved good results with it... That is why we should give our support to the view that first-level study should be further developed, that its introduction at any new Faculty should be carefully prepared, and that it should not be abolished where it already exists... ** ".

The prevailing view now is that the training of first level graduates should be left to Two-year Post-secondary Schools. Faculties could also train them, but not as the first level of university education, but rather as one of their additional activities directed towards the preparation of personnel with post-secondary qualifications. Experience with the first-level study so far leads to the following conclusions:

i) Students have not accepted the first level as a form of final education: practically all those graduating at first level proceed to the second level;

ii) Business and industrial organisations have not shown interest in first-level graduates (although the system was introduced to meet the needs of business and industry for graduates of this type);

iii) The division of a comprehensive four-year course of study into two parts, with the first part failing to provide the necessary background for continuation at the second level, has not proved beneficial since the inversion of subjects undermines the logical coherence of studies.

The first generation of first-level graduates has shown extreme reluctance to take jobs and considerable willingness to continue education at the second level.

No precise data are available on the number of first-level graduates taking up industrial and other jobs. According to reports from some of the Faculties, most of them have proceeded to the second level of study. Similar findings have been obtained through a survey made by the Federal Secretariat for Education and Culture.

The reason for this may be their inclination to further education, especially if one remembers that it was primarily the best and most gifted

* Professor Albert Struna, Faculty of Mechanical Engineering, Ljubljana, speaking in discussion.

** Janez Vipotnik, Federal Secretary for Education and Culture, speaking in discussion.

students who managed to graduate within the prescribed period of time. Another contributing factor may have been the difficulty of finding suitable jobs in larger towns (where graduates primarily seek them). It is interesting to note in this connection that a considerable number of second-level university graduates also fail to take jobs – either waiting for openings in larger towns or enrolling for the third level (i.e. post-graduate courses).

A similar trend towards continued education is noted equally among Two-year Post-secondary School graduates and Secondary Technical School graduates. (The trend is largely provoked by the idiosyncrasies of remuneration: a young, newly graduated engineer is usually paid better than a technician with many years of practical experience).

The general conclusion may be that the insufficiently prepared introduction of the first-level education later resulted in the abandonment of this kind of education even in the areas in which first-level graduates were needed.

The negative attitude of industrial and business organisations to first-level graduates was due in the first place to inadequate collaboration between Faculties and the economy during the preparatory stages. The blame sometimes rested with Faculties, sometimes with economic organisations, most often with both. It should be said that the degree of development of the Yugoslav economy, its organisation, and the pattern of skills of its personnel are such that proper and objective decisions on the need for highly qualified manpower are often lacking. Too much was perhaps expected from business and industrial organisations during the preparatory stages of the educational reform.

Finally, it is highly indicative that the Chancellor of the University of Ljubljana has expressed the view that practically all Faculties will probably soon revert to the comprehensive four-year system undivided into first and second level. Thus even this University, the pioneer of the new system, has decided to abandon it, "because experience has shown that the division into two levels does not produce desired results". Besides, the actual length of study proved to be longer than expected.

This question can be summed up as follows:

Faculties justify the abandonment of the first level by the following reasons:

i) the majority of first-level graduates proceed to the second level; very few go straight into employment, partly because the economy does not seem to be sufficiently interested in personnel of this kind;

ii) more teachers and greater resources would be needed for a proper organisation of first-level teaching;

iii) most teachers believe that the introduction of the first level reduces Faculty teaching standards;

iv) there are enough Post-secondary Schools in the country that offer the same kind of education as the first-level Faculty courses.

Two-year Post-secondary Schools

The 1960 Act aimed at integrating Two-year Post-secondary Schools into the higher education system with a view to training a new type of graduate with post-secondary qualifications, thus filling a gap in the edu-

cation system and producing the qualified personnel needed by the economy. The reasoning is strinkingly similar to that underlying the introduction of the first level of Faculty education, and in this connection it is therefore necessary to analyse the position of these Schools a little more closely.

They fall into two main categories:

- Teacher Training Schools and,
- Technical Schools (engineering, agriculture, business and commerce, medical auxiliaries, etc.).

In 1956–57 there were only 34 Two-year Post-secondary Schools (16 Teacher Training, 18 Technical); in 1966–67 there were 139 (40 Teacher Training, 99 Technical). The most intense period of expansion was 1959–1960/1962–63, during which the number more than doubled, from 66 to 139.

They were mostly designed to meet the needs of branches in which there was a shortage of qualified personnel. The following table illustrates the changes in the pattern of Two-year Post-secondary schools between 1956–57 and 1966–67.

Table 37. NUMBER AND TYPE OF TWO-YEAR POST-SECONDARY SCHOOLS 1956–57/1966–67

1956–57		1966–67	
Teacher training	16	Teacher training	40
Medical auxiliaries	9	Engineering	37
Administration	4	Business management	19
Social work	2	Agriculture	10
Business management	2	Law and administration	7
Shipping	1	Medical auxiliaries	7
		Transport	6
		Social work	5
		Statistics	2
		Social and political science	2
		Personnel management	2
		Social insurance	1
		Production engineering	1
Total	34	Total	139

Note: The subjects shown in Table 37 do not correspond exactly with those shown in Table A.5 in Annex I

Although the increase in the number of engineering schools may be regarded as a positive development, the question still remains whether the doubling of the number of teacher-training schools and the increase of three times in the number of schools of business management was really justified. The number of post-secondary schools of law and administration rose the least, but even in their case one may ask whether this was in keeping with the intentions behind the reform.

Post-secondary teacher-training schools have usually been opened in places where they are needed and the comments on post-secondary schools that follow apply to other post-secondary schools but not to teacher-training schools.

These questions are no longer open: it can already be said that the pattern of graduates described above was not what the reform was designed to produce. The only thing which is not clear, however, is what kind of graduates should have been produced. Proper manpower planning, as already noted, has been lacking. Two-year Post-secondary Schools were opened somewhat haphazardly, according to some kind of "economic" considerations which favoured the opening of "cheaper" post-secondary schools.

This expansion of post-secondary education has caused serious problems and difficulties whose common impact has been the stagnation, if not actual falling, of educational standards.

Here are only two figures to illustrate the deterioration in quality:

i)

	1957–58	1966–67
Student teacher ratio	11	23
Student auxiliary teaching staff ratio	69	106

It is noteworthy in this connection that the ratios at Faculties and Colleges, despite all difficulties, were much better in 1966–67 (see Table 22 above).

There is one other thing which makes the situation even graver than it appears from the figures given here. We are speaking here of all teachers and auxiliary teaching staff – both full-time and part-time. If full-time staff only were taken into consideration, the ratios would soar up. For only 44.9 % of teachers and 42.6 % of the auxiliary teaching staff employed in Two-year Post-secondary Schools in 1966–67 were full-time. (This contrasts with 62 % of full-time teachers and 70 % of full-time auxiliary teaching staff in all institutions of higher learning taken together, which shows that the structure in Two-year Post-secondary Schools was much inferior).

ii) The second indication of quality is the number of graduates. While first-year enrolments in Two-year Post-secondary Schools have grown steadily (which is not the case with other types of institutions of higher education), the number of graduates has gone down in relative terms.

Table 38. GRADUATES FROM TWO-YEAR POST-SECONDARY SCHOOLS, 1958–1966

Percentages*

1958	1959	1960	1961	1962	1963	1964	1965	1966
22.5	22.7	24.2	17.1	16.6	15.5	15.6	14.6	13.5

* Absolute figures are given in the Statistical Annex.

It should also be noted that the actual average length of study at these schools – with the course of study fixed at two years (and only exceptionally three) – was 3.8 years in 1965.

In our discussion of part-time study we pointed out that it was a predominant feature of post-secondary schools in 1966–67: 62 % of all part-time students were enrolled in Two-year Post-secondary Schools; in the case of first-year part-time enrolments the share of such schools is even

higher – 71 %. However, numbers were not the most important problem: much more important was the problem of quality. With such a high number of part-time students, only a few managed to finish their studies at all, and even they took much longer than the prescribed period of study. Drop-out is extremely high among part-time students, amounting to 75–80 % between the first and the second year.

One of the major causes of inefficiency in part-time study is probably the inadequate process of teaching, which is in most cases the same as with full-time students. Another cause is the unfavourable relation already mentioned between the number of part-time students and the number of teachers and other facilities that Two-year Post-secondary Schools can offer them.

The main deficiencies noted in Two-year Post-secondary Schools so far can be summed up as follows:

i) the actual length of study which frequently exceeds the prescribed period;

ii) the inadequate educational standards;

iii) the ill-defined relation of Two-year Post-secondary Schools to Colleges and Faculties.

The introduction of first-level study at Faculties had a damaging effect on the programmes of most post-secondary schools. Many such schools tried to adapt their curricula and programmes of instruction to those of Faculties, so as to make it easier for their graduates to proceed to the second level. In this way, Two-year Post-secondary Schools, like first-level study at Faculties, began to prepare students for further education instead of providing school-leaving qualifications for certain jobs. During the last two years, however, the links between post-secondary schools and Faculties have become weaker as more and more Faculties are switching back to the traditional comprehensive system of four-year study. But a new idea has been recently put forward – that two-year schools should be opened within the Faculty framework to provide both the first level of Faculty education and the specialized knowledge and skills needed for specific jobs. An example of this new development is the School of Accountancy opened by the Faculty of Economics, Zagreb University, in 1967–68.

The problems discussed here touch indirectly upon the question whether Two-year Post-secondary Schools should train only specialized personnel for certain branches of business and industry and for some social services, or whether their graduates should possess broader, more flexible knowledge, with enough theoretical background to enable them to adapt readily to the requirements of a broader range of jobs in a given branch.

We can conclude this discussion by saying that the question of Two-year Post-secondary Schools should be seen in the light of a number of unsolved problems:

i) Insufficiently defined manpower needs – both as regards the quantity and the quality of graduates.

ii) The ill-defined role of post-secondary schools and of their graduates in society.

iii) The staff and material shortcomings of such schools.

Forms and length of first and second level education

We now turn to the relation between the first and the second level of education at Faculties.

The two levels of Faculty education were organised in one of the following ways:

i) The two levels were independent, self-contained, yet inter-related, which made it possible for the students:

- to graduate at the first level, to acquire the skills and knowledge needed, and take up industrial or other employment in which post-secondary qualifications were required;
- to graduate at the first level and proceed straight to the second level (without any differential examinations), or to do so under certain specified conditions (top grades in the first level, etc.).

Each level consisted, as a rule, of a two-year course. Only exceptionally, a two-and-a-half year course was prescribed for the first level of study at some Faculties of Engineering.

ii) The two levels ran parallel, as two separate activities organised by the Faculty. Each level had its own curriculum — the one for the first level designed to provide all-round knowledge in a given field, and the one for the second level mainly following the traditional pattern. The second level organised in this way took three or four years. If first-level graduates wished to proceed to the second level, they were obliged to take a differential examination.

iii) Some Faculties offered only the second-level course of study lasting four or five years.

iv) Combinations of the above three forms of organisation also existed at some Faculties.

In addition to the problems already discussed, some new problems appeared. Once Two-year Post-secondary Schools were formally integrated into the system of higher education, the view was expressed that their curricula should be identical with the first-level curricula at corresponding Faculties. Another aspiration that began to be felt in such schools was that their teachers should have the same academic rank as that enjoyed by Faculty teachers. It was completely forgotten that post-secondary schools had been formed to train graduates of narrower specialization than those trained at the first level of Faculty education.

In the light of everything said here about the development of post-secondary schools and of the first-level of study at Faculties; it was inevitable that misunderstandings should occur. One of the undesirable trends was towards "transforming" post-secondary schools into Faculties even before the first generation of graduates came out of them. Some of those schools were even established so that they could turn into Faculties at the earliest possible moment. Such developments must inevitably have affected the quality of teaching and led to distortions in Two-year Post-secondary Schools.

The question of transfer of post-secondary school graduates to the second level of Faculty education appeared at the point at which it became obvious that these schools failed to give their students the kind of knowledge needed for employment in the economy. At the same point, in

1960, post-secondary school graduates were given a chance to enrol as students at the second level of Faculty study. Before 1960, they could only enrol in the first semester, which hardly stimulated them to continue their studies. The problem was the same with first-level Faculty graduates. The entire system of post-secondary schools and of first-level study lost its significance when it became clear that it did not train graduates who would leave school and enter employment.

As for the transfer of post-secondary school graduates to the second level of Faculty study, the requirements vary from one institution to another, but it seems to be generally accepted that some kind of supplementary examination is needed.

Third-level (post-graduate) study

The 1960 Act, introduced the third level of study (i.e. post-graduate study) as a regular form of education at all Faculties, open to second-level graduates.

Even before the 1960 Act, ever since 1954, some of the "established" Faculties in Yugoslavia had offered post-graduate courses and courses for specialization. This form was most developed at the Public Health School attached to the Faculty of Medicine in Zagreb. As far back as 1950–51 the School began to grant scholarships to promising students willing to engage in research after graduation. The Law in 1954 introduced the level of "specialization and doctoral study".

The 1960 Act finally introduced post-graduate study as the third level of university education, which then ceased to be a mere optional activity and became a regular feature of Faculty education, like the first and the second level.

The introduction of the third level of university education was from the very beginning accepted as a positive measure that would contribute to the raising of educational standards generally. From the point of view of social needs, this was a very beneficial development. It was felt that post-graduate study was an organised approach to the training of young teachers for universities and young research workers for industry, social services and research institutions.

The Law provided for two types of third-level study — a course leading to a Master's degree and specialization courses. However, no exact definition of the two types was given in the Law, which has resulted in considerable difficulties and misunderstandings. Even the most recent Law on Education, that of 1964, gives only the most general and vague provisions regarding the third level of education. However, the Law on Higher Education was more explicit when speaking about post-graduate study and specialization as the highest forms of education.

The prevailing type of third-level education is that leading to a Master's degree, rather than specialization. This is due to the fact that most Faculties seem to have different criteria for one and the other, giving more weight to the Master's degree, although they should — by Law — be equal. An added factor is the pressure of students themselves, who seem to be more attracted by the academic degree of a Master than that of a specialist.

The third level of university education has expanded fairly fast. In 1960–61, only 17 (out of the total of 78) Faculties offered post-graduate courses in different subjects, 47 of which were courses leading to a Master's degree and ten were specialist courses. In 1964–65, on the other hand, 53 institutions of higher learning offered such courses — 43 Faculties, 3 Colleges, 4 Art Academies, and an independent research institute.

The state of third-level enrolment was as follows:

Table 39. POST-GRADUATE ENROLMENTS 1962–1965

	1962–63	1963–64	1964–65
Total	2,854	3,896	3,546
Master courses	2,699	3,553	3,325
Specialization courses	155	343	220

In the period between 1960–61 and 1964–65, 450 Master's degrees and 106 specialist degrees were awarded.

In spite of the successful beginning of the rapid expansion of third-level education, there are certain questions of principle which must be urgently solved if the institution of post-graduate study is to continue to develop. Some of the difficulties have been due to the unexpectedly high interest for this kind of education among students, and others to the lack of experience with this type of university education.

One of the obstacles to a more efficient organisation of post-graduate education has been the fragmentation and scattering of research institutions within universities and the lack of any co-ordination between them and institutions outside universities. The consequence is a certain amount of parallelism and duplication, as well as a certain antagonism and animosity between different institutions and places offering the same type of education.

The prevailing view now is that post-graduate courses should be organised and conducted by Faculties, which would co-operate most closely with other Faculties and Colleges in the country and abroad and with research and development departments, institutes and laboratories in industry. This kind of co-operation would be established on a permanent, long-term basis with all those institutions which possess adequate material facilities and teaching staff for this purpose. Such arrangements are quite feasible in view of the fact that many industrial laboratories are often better equipped than the corresponding university institutions; also, they are well staffed and some of their specialists are top experts for their fields in the country.

It has been pointed out in numerous discussions that, although post-graduate teaching remains the task of every Faculty not all Faculties should be encouraged to introduce post-graduate courses: these should be introduced only where there is a real social need for them and where there are enough teachers capable of conducting them. However, no administrative discrimination should be made between Faculties offering post-graduate courses and those unable to offer them — rather, the introduction of post-graduate study should be encouraged wherever conditions exist for its proper organisation, i.e. wherever research work in a given field has

reached a sufficiently high level to guarantee the desired quality of post-graduate teaching.

It is noteworthy that excellent results have so far been achieved where different universities, or at least different Faculties of the same university, co-operated in the organisation of post-graduate courses. The participation of teachers from other Faculties in the same discipline, or from related Faculties and research institutions, is useful not only because it ensures the highest quality in teaching but also because it enhances the exchange of knowledge and experience through teaching. Particularly important in this respect is the participation of experts from industry, because their specialist knowledge and practical experience can relate post-graduate teaching directly to present-day needs of the economy.

Different Faculties have expressed the view that the course leading to a Master's degree should last four semesters and specialization two to three semesters. At present, post-graduate courses leading to a Master's degree are offered in 194 subjects; 160 of them are four-semester courses, 24 are three-semester, and only three of them are six-semester courses. Specialization also lasts four semesters in the majority of subjects (32 subjects); only exceptionnaly does it last two semesters (5 subjects).

Some Universities (Zagreb and Belgrade) have already discussed how the conditions of post-graduate study could be standardized. At present there are great differences in approach to the length of study, number of hours taught, number of practical exercises, laboratory work, etc. There have been cases of the third level being simply an extension of the second level of university education, thus prolonging Faculty study to five or six years and practically defeating one of the major aims of educational reform, namely the shortening of the actual length of study. It is sometimes all too easily forgotten that post-graduate study has been introduced only to prepare young research workers and top specialists. The question that is now debated is whether each Faculty should be left to determine the standards of post-graduate study independently, or whether the standards should be normalized at all Faculties of a given university. It is somewhat doubtful whether such differences as exist at present are really useful, especially when they are so pronounced even within one and the same university.

Some of the forms and subjects of post-graduate study have failed to attract enough students: there have been certain Faculties where post-graduate courses could not be run because no students enrolled. The interest of industry for this form of study has also been inadequate in certain fields: firms send fewer of their people to post-graduate courses than expected, so that some of the engineering courses had only a few students in 1962–63. One of the reasons for this state of affairs may be the prevailing orientation of Faculties towards Master degree courses rather than specialization. As these courses last two years as a rule (only some of the Faculties offer one-year specialization courses), firms find it difficult to deprive themselves of the services of their young people for such a long period of time and at the same time to pay considerable tuition fees for them. (These go as high as 500,000 old dinars for the entire course, which is more than many firms are prepared to pay).

To conclude this review of post-graduate study, something should also be said about teaching methods. They have to a certain extent changed

since the introduction of post-graduate courses and have played a role in attracting students to this level of education.

Both individual and group methods of teaching are used at the third level. Group teaching is practised when there are more students, and it is done through regular lectures and seminars. Wherever possible, teaching is organised so that students can also work full-time on their jobs.

The traditional method of *ex cathedra* teaching is now increasingly giving way to seminars, tutorials, discussions, etc., usually organised for four or five days every month. In this way students can attend post-graduate courses without sacrificing their jobs. Another form of post-graduate teaching is individual tuition, i.e. a course organised for a single student.

The main trend in third-level study at present is the abandonment of second-level teaching methods and the introduction of methods which enable students to study their subjects in depth, while leaving their jobs for as short a time as possible. It is hoped that this will make post-graduate study more attractive for industry, that it will send more of its young people to such courses, and that its financial contribution will, consequently, increase.

Syllabus and curriculum changes

We have already referred on several occasions to changes in syllabus (content of study) and curriculum (dynamic process of learning), especially in connection with the introduction of the three-level system. This does not mean, however, that changes have been made only where the three-level system has been introduced. We have seen that a great many Faculties have not introduced this system, but they have nevertheless been constrained to revise or modify their syllabuses and curricula. In this section we shall consider syllabus and curriculum changes from three points of view:

i) changes necessitated by the "inversion of studies" following the introduction of first-level education;

ii) changes necessitated by social, scientific, economic and technological progress;

iii) variety of syllabuses and curricula.

There is, however, one preliminary question, fundamental to many of the topics considered in this report, but particularly relevant to questions of syllabus and curriculum. What is conceived to be the function of higher education; is it to train personnel for specified jobs (in response to manpower planning) or is it to give young people a certain kind of knowledge which will enable them to enter life at a fairly high level? It is not our purpose to give a dogmatic answer at this stage, but we wish to emphasize that the reforms have been beset by vacillations between these two views, with the result that, in some aspects of higher education, no progress has been made.

The soundest answer probably is that Universities should try to steer a middle course, fulfil both roles and achieve both aims. But the Yugoslav Universities have failed to follow this line, and have either adopted all the innovations as they came, or have stuck to their traditional status and conservative ways.

It was precisely because they took the first view, and were preoccupied with the "manpower" aspect that many Faculties introduced various new Departments, Sub-Departments or subjects. This was at first regarded as an important feature of the reforms and it was believed (and publicly proclaimed) that the economy and the social services did not need graduates with a "general education", but those trained in special skills required for immediate employment.

The result has been improvisation, duplication of effort and strain on material and human resources. Some of the effects of this orientation are still to be felt.

a) The idea underlying the "inversion of studies" and the inclusion of Two-year Post-secondary Schools in the higher education system was that the first level (Post-secondary Schools and Faculty first level) would produce personnel with post-secondary qualifications, the second-level would produce graduates with university qualifications and the third-level would produce specialists and researchers. This meant that the Faculties would have to train people with different skills and different levels of qualification. It implies a drastic reshaping of syllabuses and curricula.

What exactly was involved in the "inversion of studies"? The teaching in most Faculties was deductive, and to some extent dogmatic. The early years of study were designed to prepare students, through the study of theoretical subjects, for more specific subjects in the later years. Inversion meant a shift to an inductive approach, so that practical subjects would be introduced in the early years of study, alongside the theoretical ones. The assumption was that the study of practical subjects during the first level would give students the grounding they needed to understand the theoretical foundations and general laws of their subjects.

Furthermore, in order to give the first level some practical significance, it was envisaged that it would not only serve as a preparation for the second level, but that it would also train students for practical jobs in industry and the social services. But quite apart from the fact that this assumption proved wrong – because this kind of first-level was not what industry and the social services needed – another development occurred which was much more harmful to higher education. Even while plans were being made for the introduction of first-level studies in the Faculties the fear was already expressed that it might lead to the lowering of educational standards. If the view were accepted that Faculties were institutions for teaching and research, it might be asked whether first-level teaching in the Faculties could be made scholarly and scientific (i.e. based on research) if it were to follow the level of the Two-year Post-secondary Schools, which were not research institutions.

There were two reasons for the desire to introduce "something new" into Faculty syllabuses and curricula:

i) to specialize personnel at the highest level of qualification,

ii) to make university study less uniform.

The intentions were quite sound, but the achievement was not very satisfying – at least not so far as it concerned the introduction of the first level. Uniformity was in any event successfully attacked by allowing specialization during the last two years of the comprehensive four-year Faculty education.

What, then, was the intention of changes in syllabus and curricula? First, to reduce the number of subjects taught and to cut two-semester subjects to one semester, and longer subjects to two semesters. Secondly, to overhaul teaching programmes so as to do away with any unnecessary overlapping in the teaching of related subjects and reduce the historical perspective to the minimum, while giving greater prominence to the most recent achievements of science and technology.

Thus, the introduction of new branches of study and new subjects was aimed at a more rational distribution of the subject matter and a reduction in the number of classroom hours. Some subjects were condensed and others dropped altogether if they were not felt to be indispensable for the new type of graduates needed by the economy. Such changes considerably disturbed the traditional set-up and were resisted by conservative teachers, especially where established subjects were to be reduced in scope and importance. Some teachers continued to teach their subjects and examine in them as before, without any change.

The net result of the changes in teaching methods, syllabuses and curricula was a marked increase in the number of subjects taught and a slight decrease in the weekly load on students and in examinations. The effect on these changes, if not the exact opposite of what was expected, certainly fell short of the mark which would have justified the effort.

It was then that the question was asked whether there were any universally valid standards of education and, if so, what they were.

Strangely enough, it was the Skopje earthquake of 1963 which brought this question to a head. Following the earthquake, in which Skopje University was badly damaged, all Universities in the country took students from Skopje and suddenly realized the wide gaps which existed between related Faculties in different Universities.

What were these differences? According to one, fairly general, view, they were largely the result of different attitudes towards first-level Faculty education. Insofar as a given Faculty adopted the three-level system, it was also forced to change its syllabus and curriculum.

The situation at different Faculties of law may be taken.* The Ljubljana Faculty of Law had a two-level system in repetitive form, in which practically all subjects were taught during the first two years of study and then repeated in the second two years in much greater depth. The Belgrade Faculty of Law had a two-level system, with one group of subjects at the first level and a completely different group of subjects at the second level. The Zagreb Faculty of Law had no division into different levels: it retained the traditional comprehensive four-year course. The Faculty of Law of Sarajevo had two different courses – a two-year course and a four-year comprehensive course.

Another important cause of differences in curricula is specialization. An illustrative example is that of Technological Faculties (which still exist in Yugoslavia although they are seldom found abroad): the Belgrade Technological Faculty has not only two levels but also ten different specialist branches at the first-level and nine at the second; the same Faculty

* According to Professor Pjanić, whose paper on the Yugoslav Standards in University Education (similarities and dissimilarities in the curricula of related Faculties) was read at the VIIth Plenary Meeting of the Federation of Yugoslav Universities

in Zagreb has only two sections — chemico-technological and biological — with three branches in each and a number of optional subjects: at other Technological Faculties in the country, the choice of branches and subjects is much more narrow.

In many cases, the distribution of subjects by years of study is widely different. Thus for instance, sociology is taught in the first year at five of the Faculties of Economics, while at all the other Faculties it is taught in later years.

The extent to which different subjects are taught at different Faculties also varies. Different numbers of hours are devoted to the same subject at different Faculties. At the Ljubljana Faculty of Pharmacy, for instance, organic chemistry is taught for 154 hours; at the Belgrade Faculty of Pharmacy, the same subject is taught for 308 hours.

Such wide differences cannot all be ascribed to the introduction of three-level education: not infrequently they are the result of subjective views of different groups inside the Faculties.

This is not to say that syllabuses and curricula should necessarily be made uniform, for there are no two related Faculties anywhere in the world with identical curricula. But the fact remains that curricula variations should be brought within tolerable limits.

In conclusion it can be said that the problem of syllabus and curriculum changes was undoubtedly one of the fundamental problems for the reform of higher education in Yugoslavia. There is no doubt that universities can follow new developments in science and society can become an active agent of social development only if they adapt their syllabuses and curricula to modern conditions. All syllabus and curriculum changes in the Yugoslav universities were designed precisely with this object in mind.

IV

SPECIALIZATION

In the preceding chapter, we have already noted some of the aspects of specialization. In other parts of the study much has been said on the same subject. We shall therefore now try to give an overall view of specialization in institutions of higher education.

The reforms envisaged the following kinds of specialization:

i) Specialization of students at different levels of higher education;

ii) Specialization of students within the same Faculty, or related Faculties, in different branches, sections and departments;

iii) Specialization of students in newly established institutions of higher learning in different parts of Yugoslavia.

Specialization at different levels

Specialization through three-level education could be considered from two points of view: from the institutions involved and from the content of teaching.

Institutional specialization was effected between the different groups of institutions involved in higher education. Thus, Two-year Post-secondary Schools trained specialists with post-secondary qualifications, sufficient for certain jobs in industry and public services. Faculties, on the other hand, trained both post-secondary specialists (first-level graduates) and university (second-level) graduates. We have already noted that it was not quite clear why institutional division was necessary between Two-year Post-secondary Schools and the first level of study at Faculties. The main reason was probably the expected increased demand for a greater number of graduates with post-secondary qualifications.*

Specialization from the point of view of the content of education is closely connected with the question of the quality of education — and this depended on the type of institution at which a particular student was trained. Such differences are normal in view of the fact that post-secondary

* This question has already been discussed in the preceding chapter and needs no repetition here. It can only be said that the reasoning was wrong, simply because the question of the number and kind of post-secondary graduates needed was never posed or answered.

schools had their own contents of education, different from those offered by Faculties at their first level of study. The differences in quality have already been analysed.

It can now be asked why differences in specialization were needed. Since the quantity determined the quality (and not the other way round), specialization was simply the product of institutional differences. And the differences in quality were determined by the view that different institutions took of their role in the process of specialization. The result, of course, could only be subjective, as it was the subjective forces within institutions of higher learning which defined their role. The final conclusion is that this specialization produced adverse rather than favourable effects.

When considering specialization in the light of the three-level organisation of teaching, the second and the third level of education must not be overlooked. The latter (i.e. post-graduate study) has produced very positive results, even though it has been geared towards Master's degrees rather than towards "specialization proper". It cannot be denied that Master Degree courses have also produced specialists at the highest level of university education.

Specialization within the same Faculty or related Faculties

One of the characteristics of the reform was the differentiation of study within one and the same Faculty, or within the same level of higher education.

Under the earlier system, each Faculty used to train graduates of a uniform pattern; the new system meant the division of most of the Faculties into new departments, branches and sections. This was an essentially favourable development, as it facilitated the training of graduates of different patterns for different jobs in industry and social services. This process was however designed with another purpose in mind: that the actual length of study should be brought into line with the prescribed period. This latter objective, as we have seen, was not achieved. But to come back to the problem of specialization itself: there were cases of excessive specialization, of too small and narrow branches, of similar departments at related Faculties in different parts of the country — all of which resulted in groups and departments with a very small number of students. In 1962–63 there were already disciplines in which teaching could not be organised because of the insufficient interest of students for such narrow subjects. With the growing number of branches enrolling a few students only (especially in the later years of study, following a considerable drop-out at the end of the first year), serious organisational problems appeared: rational utilisation of the teaching staff and of classroom and laboratory facilities became very difficult and financial outlays per student very high. The complexity of branches made it extremely hard to prepare stable programmes of instruction.*

It follows from the above that this "specialization expansion" within Faculties resulted in a situation in which resources and efforts were wasted.

* There have been cases of universities in Yugoslavia training as many as 90 different types of graduates.

The problem was debated at great length at numerous Inter-Faculty Conferences but little or nothing was done to rationalize specialization between related Faculties.

Geographical specialization

Specialization in terms of the geographic distribution of institutions of higher learning meant that new institutions should be established in places in which industry and other services required the kind of specialists the institution in question was prepared to train.

Two examples of such specialization have already been given.* Others include the opening of the Sisak branch of the Technological Faculty of Zagreb (where the oil refinery needs specialists of this kind), then the opening of individual Faculties and later the establishment of the University of Niš (to serve manpower needs of the industrially-growing part of Serbia), and finally the location of a number of post-secondary schools at Maribor (to serve the needs of an entire region, even of the whole Republic of Slovania).

Special mention should be made of the University of Novi Sad, whose opening was necessitated by the economic and social development of the Autonomous Province of Voivodina and by certain historical reasons. Novi Sad, being in the centre of a rich agricultural area, is particularly well suited for specialization in the study of agricultural subjects.

All these examples illustrate the main idea – that specialized Faculty branches and entire Faculties were planned to be located in regions where they were most needed. Yet, there are examples, not only of Two-year Post-secondary Schools, but also of Faculties which have failed to fulfil their role. While the failure of Post-secondary Schools has often been due to highly subjective reasons (the desire of the local authorities to open such schools even where conditions were not ripe), in the case of Faculties their good will and readiness to specialize cannot be denied.

Their failure can perhaps best be illustrated by the example of the Faculties of Economics in Osijek and Rijeka. The first was meant to specialize in the training of economists for agriculture and the food-processing industry and the second for tourist trade and shipping. However, it is still difficult to note any significant differences between these two Faculties and the Faculty of Economics in Zagreb, which has branches which are similar, if not identical, to those which the Faculties in Rijeka and Osijek should provide. One of the reasons for the failure of such Faculties may be found in the lack of adequate teachers needed for specialization. Another is the social and economic situation in the regions which such specialized Faculties are designed to serve: local industry is not sufficiently interested in their graduates and this has a discouraging effect on their further specialization and development.

Some people feel that the Zagreb College of Business Management is also unnecessary by the side of the Faculty of Economics, but this is actually not so much a case of specialization as of two different kinds

* See p. 64. The Faculty of Mining at Tulza working in close co-operation with the Institute of Mining and Technological Research and the Faculty of Metallurgy at Zenica linked with the Institute of Metallurgical Research.

of study: the College of Business Management takes only students who already work on their jobs (and come for some kind of part-time study), while the Faculty of Economics enrols full-time students and part-time students for courses organised differently from those at the College of Business Management. Specialization can only be seen in the fact that the main emphasis in the College of Business Management is on micro-economics, while at the Faculty of Economics equal attention is paid to micro-economics and macro-economics.

Conclusion

All this shows that higher education has embarked upon a new road of specialization. The structure of the university has become more complex as new fields have opened for university study. The idea behind specialization has been the training of graduates ready to enter specific jobs. The structural enrichment consisted in the training of specialists for all possible fields.

This means abandoning the earlier system of general university education, which used to produce all-round graduates, and introducing a new approach to university education – that of more narrow specialist orientation.

Specialization and structuring, which become a necessity at the same time that the division of labour increases, does not in any way mean that theoretical education should be neglected. Precisely the contrary is true: specialization on sound theoretical foundations is a prerequisite for the development of higher education along the lines laid by the progress of technology, science and society. On this new road paved by the reform however, extremes should be carefully avoided, since they lead to a waste of human and material resources. An example of such an extreme is the establishment of three Textile Faculties in Yugoslavia. They have been, admittedly, set up in the centres of Yugoslav textile industry, but it is nevertheless doubtful whether our society is prepared, or indeed able, to finance such narrowly specialized institutions on such a broad scale. The question is also whether as many textile engineers are needed as these three Faculties can produce.

V

ORGANISATIONAL STRUCTURES: INSTITUTIONAL AUTONOMY

The present status of Universities and Faculties

The organisation and structure of Faculties and Universities and their reciprocal relations have already been outlined (p. 24). It will be recalled that it is, in general, the Faculties which are the autonomous institutions of higher education, the Universities being voluntary* associations of institutions of higher education.

In 1965 the Federal Secretariat for Education and Culture put forward a new concept of university organisation, namely association by fields of study and discipline. The Yugoslav Universities, however, rejected the idea of universities "by discipline" and remained determined that the existing organisation should be preserved unchanged.

The University, then, is still recognized as an indispensable form of Faculty association, with very important tasks to perform, including the following:

i) to examine and harmonize differences between Faculties involving the organisation of teaching, enrolment and regime of study;

ii) to represent the Faculties in their relations with third parties in Yugoslavia or abroad;

iii) to co-ordinate building programmes for University Institutes, halls of residence, refectories etc.;

iv) to follow up the students' material position;

v) to do other jobs that Faculties are unable to do themselves and that they entrust to the University.

But one fundamental problem still remains: since the Universities in all Republics except Serbia are formed voluntarily, their authority over the member Faculties and Colleges is small. They can only make recommendations, while final decisions rest with Faculties and Colleges. Zagreb University has, for instance, tried to integrate research efforts and to form university institutes, to organise the teaching of certain subjects at University level, and to establish certain joint services for all Faculties. All these

* Except in Serbia.

projects, if not effectively blocked, have been delayed much longer than would normally be necessary.

In this situation, in which the status of the University is not very well defined, or at least in which its authority is considerably diminished, the problem of financing higher education is tackled through the so-called *Educational Associations,* in which representatives of educational institutions meet representatives of economic and social organisations.* These Associations have the task of organising the collection and distribution of educational funds. According to the provisional law regulating this matter in the Republic of Croatia, Zagreb University is treated as an Educational Association which receives the money and distributes it among its member Faculties and Colleges. According to the proposed new legislation, however, the University would be deprived of this function in order to leave Faculties free to establish direct contacts with the economy. But it should be noted that the role of the University in the sphere of financing has been an important one, because it has worked out standards of educational expenditure applicable to all institutions within its scope.

Other forms of Association

The question of association of institutions of higher education cannot be exhausted by describing universities alone, since there are other forms of association in addition to universities. Without going into details we shall merely list the different forms of association.**

Associations can be classified on the basis of several criteria. First is the territorial classification into:

a) associations of institutions of higher learning for the whole of Yugoslavia;

b) associations covering the territories of individual Republics;

c) associations covering individual cities.

The classification can also be made on the basis of the type of institutions involved:

a) Yugoslav associations of related faculties (the Association of Medical Faculties, of Forestry Faculties, of Mining Engineering Faculties, etc.);

b) the Yugoslav Association of Post-secondary Schools of Economics;

c) the Association of Agricultural Institutions of Higher Learning (including Faculties and Post-secondary Schools);

d) associations of related Faculties and Post-secondary Schools by Republics (e.g. the Association of Civil Engineering and Geodetic Faculties and Post-secondary Schools of Serbia, the Association of Faculties and Post-secondary Schools of Mechanical Engineering of Serbia, the Association of Electrical Engineering Faculties and Post-secondary Schools of Serbia, the Association of Technological and Metallurgic Faculties and Related Schools of Serbia, the Association of Faculties of Law and Post-secondary Schools of Administration of Serbia, the Association of Agricultural Institutions of Higher Learning of Croatia, etc.);

* More will be said about financing and about the Educational Associations in Chapter XII below.

** According to Dr. S. Popović, "On the Association of Institutions of Higher Learning", *Univerzitet danas,* 8, 1965.

e) the Association of all institutions of higher learning in Slovenia (including Faculties, Colleges and Post-secondary Schools);

f) associations of institutions of higher learning in different cities (the Association of Faculties and Post-secondary Schools in Split and Rijeka, the Maribor Association of Post-secondary Schools).

The above survey is given here not only to describe the existing situation but also to indicate certain possible forms of co-ordination of activities other than those offered by Universities.

But it should also be stated that some of the forms listed above exist only on paper and that they have done very little in actual practice. Since all of these organisations are purely voluntary, the implementation of their decisions is also voluntary. This brings us back to the old problem of finding ways and means of operation which all members will be prepared to accept.

When discussing the specialization of institutions, we have already noted the existence of Inter-Faculty Conferences as a useful form of co-ordination of the activities of related Faculties in different parts of the country. Faculties of Law, Agriculture and Economics regularly organise such conferences and, on the whole, profitably discuss interesting questions. But the problem of implementing the decisions reached remains open.

To complete this review of the forms of association in Yugoslav higher education, mention should also be made of the *Federation of Yugoslav Universities,* established in 1957, in the situation of full Faculty and University autonomy and self-government (granted by the 1954 Law on Universities). The Federation pursues its objectives through recommendations, opinions and similar forms. Its decisions are binding on its members when they relate to the members' rights and duties specified in the Federation's Statutes.

Conclusions

In view of the foregoing, the following conclusions can be made:

i) Faculties enjoy institutional autonomy, whose quality and content are different from those of Eastern or Western countries, and which stems from the principle of self-government as evolved in Yugoslavia.

ii) Universities operate as voluntary associations of Faculties and Colleges. In relation to society as a whole, universities are also autonomous bodies with their self-governing organs.*

iii) Institutions of higher learning may form territorial associations or associations by discipline to discuss common questions and analyse their operation.

In addition to these institutional forms of co-operation, there are also ample opportunities for non-institutional co-operative activity in carrying out certain tasks, e.g. joint departments for several Faculties, joint institutes, laboratories, training facilities and equipment, joint technical services for several Faculties within the same university, etc. Plans already exist for joint university departments of mathematics, physics, chemistry, and others.

* The relations between Faculties and Universities on the one hand and society on the other will also be discussed in Chapter X on Higher Education and the Outside World and Chapter XII on Financing of Higher Education.

VI

RECRUITMENT AND STATUS OF TEACHERS

The Common Outline for this study pointed out that "for many countries the lack of qualified teachers represents the major bottleneck of the present and future development of higher education. A solution to this problem might depend, to a large extent, on better recruitment policies, improved salary conditions and career prospects. A related issue arises in connection with the instructional effectiveness of university teachers, and the criteria used for the appointment of such teachers".

All these problems have also been encountered in Yugoslavia, and different solutions for them have been proposed. The whole of this set of problems is most closely linked with the financing of higher education. Since financing is discussed separately, we shall at this point confine ourselves to one important aspect only, namely, the dependence of the number of teachers on the total funds available to finance the activities of higher education institutions.

Numbers

According to the statistics given in the Annex, it is evident that the number of teachers in institutions of higher education has risen 2.5 times in the last ten years. The increase in the case of Faculties has been 2.2 times, in the case of Two-year Post-secondary Schools 32 times, and in the case of Colleges 3 times.

These figures however, cannot reveal all the problems that have existed in connection with academic staff.

The figures showing the increase in the number of teachers are only one element in the total picture. There are others which must also be considered if one is to obtain an objective picture of the situation.

Table 40 shows how the number of teachers and auxiliary teaching staff* grew during the last four years (1962–63/1966–67). The increase can

* The Croatian Law on Higher Education defines auxiliary teaching staff as follows: Assistant Lecturers assist teachers in all their teaching and research work in institutions of higher learning. Specialist and senior specialist staff members may also be appointed at institutions of higher learning; at some of them, researchers, senior researchers and research advisers may be appointed. All of them take part in the fulfilment of the scientific tasks of their institutions and in the preparation of young specialists and research workers. In exceptional cases they also engage in teaching.

be regarded as nothing out of the ordinary, since an increase of 12% for higher education as a whole and of 9% for Faculties should be regarded as normal. Of course, the expansion of higher education before 1962–63 also necessitated a rise in the number of teachers, but this rise was hardly prompted by Faculties; rather, it came in response to the policies of the whole society.

Table 40. TEACHERS AND AUXILIARY TEACHING STAFF, 1962–67

	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	1966–67
All institutions — total				
Teachers	207	220	119	112
Auxiliary teaching staff	173	194	107	98
Faculties				
Teachers	184	202	120	109
Auxiliary teaching staff	160	170	104	98
Colleges				
Teachers	2,153	2,940	147	107
Auxiliary teaching staff	812	887	113	104
Two-year Post-secondary Schools				
Teachers	253	254	116	116
Auxiliary teaching staff	302	457	132	90

Even if the increase in the number of teachers during the last four years can be regarded as normal, the situation with the auxiliary teaching staff is completely unsatisfactory. The numbers in this category have been steadily declining in all types of institutions of higher education, particularly in Post-secondary Schools and Faculties. This trend is especially worrying in the case of Faculties where the auxiliary teaching staff has always been —as we shall see later — one of the most important sources for the recruitment of teachers. The decline has repercussions on the number of teachers.

The situation becomes even more alarming if the breakdown into full-time and part-time teachers and auxiliary teaching staff is made.

Table 41. FULL-TIME AND PART-TIME TEACHERS AND AUXILIARY TEACHING STAFF, 1957–1967

	Teachers			Auxiliary teaching staff		
	% full-time			% full-time		
	1957–58	1963–64	1966–67	1957–58	1963–64	1966–67
Total	60.6	58.1	60.1	71.1	65.1	70.2
Faculties	55.2	67.6	72.2	74.4	71.1	74.1
Colleges	60.0	46.9	54.6	75.0	45.7	50.5
Two-Year Post-secondary Schools	42.7	42.9	44.9	10.8	31.9	42.6

Taking higher education as a whole, the percentage of full-time teachers is the same as it was at the beginning of the reform. The percentage is a little higher in the case of Faculties, lower in the case of Colleges, and slightly higher in the case of Two-year Post-secondary Schools.

The situation with the auxiliary teaching staff is very grave: at the end of the ten-year period the percentage of full-time people in this category is lower than it was at the beginning in Faculties and Colleges; a slight increase has been recorded in Post-secondary Schools only. Thus, for the whole of higher education, the number of auxiliary teaching staff has fallen in absolute terms, while the number of full-time people in this category has also dropped.

It is obvious from all this that neither the number nor the structure of teachers and auxiliary teaching staff is such as to justify the view that too many of them have been employed. This is also confirmed by the following data:

Table 42. INDEXES OF TEACHERS AND AUXILIARY TEACHING STAFF, 1957–58/1966–67

1957–58 = 100

1966–67	Total	Faculties	Colleges	Two-year Post-sec. Schools
Teachers				
Total	247	220	3,160	293
Full-time	251	260	2,877	309
Auxiliary Teaching staff				
Total	185	167	922	402
Full-time	190	172	620	159

Academic grades

Data on the structure of the teaching staff by academic grades in 1961–62 are given according to the statistics of the Federal Secretariat for Education and Culture:

Table 43. FULL-TIME TEACHERS AND AUXILIARY TEACHING STAFF, BY ACADEMIC GRADES, 1961–62

In percentages

	Total	Faculties	Colleges
Teachers – total	100	100	100
Professors (full)	26	25	11
Associate professors	27	28	21
Senior lecturers	3	2	16
Assistant professors	36	38	19
Lecturers	8	7	21
Others	–	–	12
Auxiliary teaching staff – total	100	100	100
Assistant lecturers	89	90	83
Others	11	10	17

The highest percentage among Faculty teachers was that of Assistant Professors (38 %), while among College teachers the highest percentage was that of Lecturers and Associate Professors (21 %).

The 1966 structure of full-time teachers and auxiliary teaching staff at Zagreb University was the following:

Table 44. FULL-TIME TEACHERS AND AUXILIARY TEACHING STAFF ZAGREB UNIVERSITY, 1966

	Teachers	Auxiliary teaching staff*	Other staff
Social sciences	39.9	19.8	40.3
Natural and engineering sciences	20.3	25.8	33.9
Medical sciences	17.5	32.6	49.9
Total	23.7	26.5	49.8

* Assistant lecturers.

Thus, 50.2 % of all people employed at the institutions belonging to Zagreb University in 1966 were teachers and auxiliary teaching staff. The structure of teachers was the following:

Table 45. BREAKDOWN OF TEACHERS, ZAGREB UNIVERSITY, 1966

Percentages

	Lecturers	Senior lecturers	Assistant Professors	Associate Professors	Full Professors
Social sciences	32.3	9.5	20.9	19.6	17.7
Natural and engineering sciences	13.8	9.1	25.7	23.9	25.7
Medical sciences	2.4	0.9	32.1	25.9	38.7
Total	18.1	7.5	26.1	22.8	25.5

Even allowing for the fact that the above two sets of data cannot be compared, since the 1961–62 figures cover the whole of Yugoslavia and the 1966 ones only Zagreb University, it can nevertheless be seen that the structure is not materially changed. The only important change is in the number of Lecturers, where an increase can be observed, mainly owing to newly created Faculties and Colleges at which the staff situation is still unsatisfactory. (The reasons why these institutions employ more people with the status of Lecturer are the shortage of qualified teachers on the one hand and the need to find room for people who fail to meet the requirements for academic promotion on the other).*

* The position of "Lecturer" was introduced at the time when not enough teachers with the necessary qualifications were available. The existence of this category of teachers is thus justified during the first stage of the reform of higher education; in all other stages no new Lecturers should be employed and those already in that status should be encouraged to acquire the qualifications needed for promotion to standard academic grades.

Recruitment

In order to get a better understanding of the situation in the whole of Yugoslavia, it is necessary to go back a little for a closer view of the period 1961–63. This was the period when a considerable number of part-time teachers were appointed, either because full-time teachers were not available or because the scope of the posts was too limited for full-time teachers. Yet, in this period many of the part-time teachers were replaced by full-time ones. Most of the teaching staff for newly opened Faculties came from local institutions or industries.

However, the selection criteria, particularly for Lecturers and Senior Lecturers, varied from one Faculty or College to another. At some Faculties and Colleges, Assistant Lecturers were promoted to Lecturers to enable them to draw higher salaries. One of the things that made such actions possible was the fact that Faculties bore sole responsibility for appointments: no approval of the choice was needed by the University Council, as before. Even so, deviations would not have occurred if the criteria prescribed by law and Statutes had been faithfully followed, especially the requirement that the prospective teacher must have publications to confirm his scholarly reputation.

It may be interesting in this respect to summarize a public discussion held on this subject in 1964–65:

All institutions of higher education were unanimous in their view that little or nothing should be changed in the scale of academic grades (Assistant Professor, Associate Professor, Professor); all of them felt that the grades of Lecturers and Senior Lecturers should be abolished but thought that this should be done gradually (by making no new appointments to these grades).

On the basis of such views and practice, appropriate provisions were made in the Law on Higher Education.* The following are some provisions of the Croatian Law:

"The status of Professor shall only be recognized to a candidate with a Doctor's degree who has demonstrated his ability to teach and who has behind him scholarly or highly professional publications, or other recognized achievements, which influence the progress of scientific thought and the improvement of practical operations.

"The status of Associate Professor shall be granted to a candidate with a Doctor's degree who has demonstrated his ability to teach and who has behind him an appreciable number of scholarly or professional publications.

"The status of Assistant Professor shall be granted to a candidate with a Master's degree who has demonstrated his mastery of the problems of his discipline and his aptitude for independent research. [It is the practice of Belgrade University to accept only candidates with Doctor's degrees for the post of Assistant Professor].

"Appointments of teachers in institutions of higher education shall be made on the basis of the report of a specially nominated commission, all of whose members are already in the status for which the appointment is made or higher.

* See Annex II.

"The actual appointment shall be made by the Faculty Board (in which all teachers sit) and confirmed by the Faculty Council.

"Only Professors, once appointed, have life tenure and are not subject to re-appointment. Associate and Assistant Professors' are subject to re-appointment every five years; Assistant Lecturers every three years.

"The requirement for the post of an Assistant Lecturer is that the candidate should be a second-level graduate who has demonstrated (either during the period of study or after graduation) his interest in, and ability for, research and teaching.

"Teachers in institutions of higher learning are required to conduct theoretical and practical teaching (in the form of lectures, seminars, exercises, tutorials, etc.), to administer examinations, to organise research and take an active part in it. It is their duty to acquaint their students with the achievements of modern science and scholarship and to apply most advanced scientific and teaching methods in their work. They must organise and supervise the entire teaching process and stimulate promising young teachers, research workers and scholars. Teachers must also share in carrying out all other tasks of their institutions. In disciplines for which appropriate textbooks are lacking, teachers are required to prepare such textbooks or otherwise direct their students to appropriate sources.

"Assistant Lecturers are required to work on their own and under the guidance of teachers in developing their knowledge and skills and preparing for the teaching career. They are also required to prepare for research and to participate in it actively."

The above quotations from the Law on Higher Education in Croatia show that legislative provisions have been made to ensure the supply of good teachers and their further improvement.

There are, however, some questions which have not been solved in the most appropriate way or for which the stipulations in the Law have proved inadequate. Thus for instance, the Law stipulates that "all major decisions, including appointments, shall be made by the Faculty Board consisting of all teachers plus the representatives of the auxiliary teaching staff". On the other hand, the appointments are to be confirmed by the Faculty Council, which is a smaller body and in which not only teachers but also outside members, representing the community and the non-teaching staff, are entitled to vote.*

It is important to see this formulation within a much broader framework of the development of self-government in institutions of higher learning, where the Faculty Council appears as the supreme body. Its actual structure depends on the working organisation (i.e. institution) itself. In this way, there is no need for any bodies outside the Faculty (say, the University Council or an inter-faculty professional body) to confirm the appointments — although suggestions to this effect are still sometimes made.** Another question which is still open and frequently debated is whether candidates for teaching posts should be chosen by secret ballot or by show of hands. But it is becoming increasingly felt that the main thing is that all institutions should apply legislative provisions and criteria

* Dr. B. Šoskić, speaking at the extraordinary meeting of Belgrade University, *Univerzitet danas*, 2, 1967, p. 24.

** *Ibid.*

and thus assure the best choices. This they are capable of doing themselves, without anybody from outside telling them what they should or should not do. An interesting example in this respect is that of Zagreb University. Its Statute contained a provision whereby all appointments for the post of Full Professor would have to be confirmed by the University Council. However, the Croatian Parliament objected to this provision in the following terms: "As for the obligatory inclusion of the University bodies in the process of appointment of Full Professors, the Statute violates the principle formulated by this Parliament, whereby all institutions of higher learning are autonomous and are not obliged to submit their appointments for confirmation. The governing bodies of each institution bear the sole responsibility for their choice, just as the institutions themselves bear the consequences of choices made. It is assumed, however, that broadly-based preliminary consultations will include all those who can give reliable opinions, but this should not be stated as a statutory stipulation. A stipulation of this kind would contravene the basic principles of the Law on Labour Relations." We can therefore conclude that all institutions of higher learning are autonomous in choosing their teachers and auxiliary teaching staff, provided they remain within the limits of the Law.

Remuneration and status

Another problem connected with the teaching staff is that of remuneration. The remuneration system is not yet fully evolved – but this will be discussed in Chapter XII on financing generally.

At this point, it is enough to indicate that job description and classification in institutions of higher education has not even been attempted, let alone worked out. The quality of work is not measured objectively, and it is small wonder that remuneration schemes are largely unsystematic and even erratic.

But when all this is said, the fact remains that the salaries of teachers and auxiliary teaching staff are somewhat low and provide no incentive for prospective candidates for teaching positions in higher education.

The social status of the university, as the highest research and teaching institution, has changed considerably in the system of self-government (which has developed in all areas of social life in Yugoslavia). Instead of direct state administration, or instead of the academic autonomy of the university and its institutions, we now see the university and its member-institutions as autonomous, self-governing organisations of working people developing new social relations, both within these organisations and between them and the "outside world". The entire scheme rests on a unique, all-pervasive and deeply humanist principle of freedom of creative work. Thus, self-government in the university means that new relations are established between the institutions of higher learning and society and that all working people in these institutions are given full rights to decide on the organisation and development of their institutions.

Teaching and research represent the highest forms of activity in such institutions. Since these activities cannot be performed without staff of high calibre, it is their duty to make a determined and sustained effort to improve their staff qualifications and to attract new people to new or existing teaching and research posts.

We should note also that certain human relations problems arise in this area too. These concern primarily the relations between teachers and the auxiliary teaching staff. The status of the latter, particularly of Assistant Lecturers, has still not been uniformly defined. As we have seen, Assistant Lecturers are chosen from among candidates who have excelled either as students or in their practical work after graduation. Preference is given to candidates with M.A. degrees and/or publications. Their most important task is to work on their self-improvement and on M.A. and doctoral theses.

The principle of rotation in different executive positions in institutions of higher education is not completely new, because Faculty Deans were regularly rotated even before the Second World War. But now it is not only Deans but also Department and Section Heads who are rotated for each term of office. The principle is not yet universally implemented, but one does find Professors who do not remain heads of departments or sections for life. Departments themselves, as administrative units, now function differently on the basis of self-government and respect of skill and knowledge. It will probably take some time before this process can be completed and before the traditionally conservative attitudes — known in institutions of higher education everywhere — can be overcome.

VII

TEACHING AND RESEARCH

The problem of balance

We have already stressed at a number of points the combined teaching and research character of institutions of higher education (Faculties and Colleges). The problem of balance between teaching and research is not so much an internal one for institutions of higher education but primarily one of relations between the university and society, of the need for society to recognize both teaching and research as two integral parts of the activity of such institutions.

The prevailing view during the early stages of the reform of higher education was that Faculties were primarily teaching institutions, and it was this part of their activity which was encouraged more than any other. However, the Yugoslav Universities were very unwilling to accept this view and they continued to develop research alongside teaching. This orientation on the part of Faculties and Universities has found its expression in a number of policy documents adopted by different bodies.*

The Universities have continued to defend the view that university teaching presupposes research and that it must necessarily be based on a critical evaluation of the most recent advances in any discipline. If this view is accepted, then it becomes quite obvious that the most important qualification for a university teacher is that he should be able to conduct original research in the field which he teaches.

Only with teachers of this calibre will Faculties and Universities be able to perform all their tasks, to renew the ranks of their own teachers and research workers, and to train graduates needed by the community.

The situation today is such that an identity of view can be said to prevail between the university and society: both are in complete agreement that a firm link between teaching and research is not only desirable but actually indispensable.

* These documents include the Federal Assembly's Resolution on Scientific Research, the Resolution on the Development of Scientific Research in Croatia, and the Draft Programme of Research Development in Serbia until 1970.

The problem of finance

We shall describe the problem as it appeared in the most recent period (1965–67), leaving out the earlier periods during which research was practically impossible owing to the prevalence of the attitude described above. Suffice it to say that only 0.15% of Federal and Republic funds were spent on research in 1965: total investment in research — from all sources in the country — amounted to no more than 1% of the gross national income.

Even at this stage, different views can be heard on the financing of the combined teaching-research activities in the universities. Our considerations of the problem of financing will at this point be strictly limited to the teaching-research aspect, while all the other elements of financing will be dealt with in Chapter XII below.

In order to get a better view of the problem, it may be useful to describe the institutional organisation of university research. There are three types of institution which perform most of the research work in universities; they are:

— independent University Institutes
— independent Faculty Institutes
— internal Faculty Institutes.

In addition, Faculty teaching units, such as departments and sections, often operate also as research units. Many teachers take part in research activities in institutions which are not connected with Faculties and Universities.

New organisational measures have been taken following the adoption (in 1960) of the Law on the Financing of Scientific Research Institutions. These measures are designed to contribute to:

"*a*) the accelerated expansion of research in industry and other sections of the economy. This can be done by encouraging research efforts of enterprises themselves and providing resources from research funds for the setting up of industrial research institutes, development laboratories, study teams and similar establishments for technological research. Encouragement can also be provided by means of appropriate tax legislation which will make it attractive for enterprises to spend more on their own research establishments.

b) the same organisational measures are designed to strengthen independent and university research institutes and to expand their network, especially in those fields and disciplines which are of the greatest importance for social and economic development ... ".*

The reasoning behind such measures was sound and the aims were praiseworthy. But the results were far from satisfactory. There were many reasons why the scheme failed, the most conspicuous being the following:

i) The number and variety of research institutions is greater than is feasible for optimum results: the number of research institutions of recognized scientific status alone exceeds 200; the total number of research institutions is in the region of 500.

* Dr. S. Radosavljević, "Putovi organizovanja naučnoistraživačkog rada na univerzitetu" (Organisation of Research at Universities), *Univerzitet danas*, 5, 1967, p. 26.

ii) The treatment and remuneration of research workers is different in University (and Faculty) institutes and in those outside the University. A problem of some importance is that of "part-time" research work and of the criteria of remuneration of part-time workers.

iii) The Faculties' "basic" activity (teaching) is financed through the Educational Associations' Funds. Research in the Faculties' institutes, on the other hand, is financed through the Federal and Republican Research Funds.

iv) The sources of finance of the research done in different Faculty units and teams not part of institutes have not yet been determined.

v) Faculties and Universities are also to blame for the fragmentation of research: it is quite evident that small and undeveloped institutions should be brought together to form larger organisational units which would promise better results, command greater respect, and certainly get more money from research funds.

It follows from all this that organisational solutions should be sought in which large, well-equipped and well-staffed institutes — either inside or outside the universities, or in co-operation — will be able to design research projects for which funds will be readily given. This would imply an equal treatment of all research institutions regardless of their particular form of organisation. Universities and Faculties would thus become equal to other research organisations, and the financing of their research activities would be regarded as a normal part of educational investment. This solution has not yet been universally adopted in Yugoslavia although it should, in our view, provide a sound basis for financing each Faculty's total activity, both teaching and research, without treating each aspect separately. This will, of course, necessitate different financing standards from those at present applied. The financing of research from regular funds for higher education would by no means preclude the financing of special projects in the established way, through Federal and Republic Research Funds.

Another problem arises in connection with the sources of research funds. It is generally felt that the insufficient resources allocated for research in the budget, and distributed through public Research Funds, should be supplemented by contributions from the economy, by encouraging industrial and business organisations to invest in research on a larger scale than before.

Two different views have however, been expressed with regard to this solution. Some people reject the idea that business and industrial firms should finance research at Faculties and Universities. Such people are very doubtful of industry's willingness and ability to do so. Instead, they demand that public Research Funds should grow at least as fast as the national income, if not faster.*

Others feel that the material basis for research at Faculties can be established only through a process of co-operation between industrial and business firms on the one hand and research institutions on the other. Finally, there is a third group of people who believe that industry could

* Dr. M. Marković, "Neka pitanja organizacije naučnoistraživačkog rada na Beogradskom Univerzitetu" (Some Questions of Organisation of Research at Belgrade University), *Univerzitet danas*, 3, 1965, p. 30.

contribute materially but who are also aware that mechanisms for such a co-operation are utterly lacking, which renders the financial contribution of industry impracticable at the present time.

One general observation should be made here to clarify the situation which characterizes many aspects of life in Yugoslavia, including the problem discussed in this sub-section.

Many different catchwords are used when speaking about the financing of research: "the bureaucratic system of state administration", "the measures designed to introduce self-government on the basis of earned income", etc. It would probably take us too far to analyse these concepts in detail, so we shall merely describe the essence of the problem in simple terms. The present period is one in which the budgetary system of financing (providing a blanket sum for all "social activities", including education, science and culture) is being abandoned in favour of a new system of "free distribution of earned income"

The failure to understand this sometimes results in a desire for a kind of centralism, even while lip-service is paid to the principle of self-government. The opposition to the new scheme comes from a failure to understand the situation, from a confusion in new circumstances, or from a conservative attitude to new developments. It is important to stress this because there are still groups of people, or even entire Faculties and Universities, which either cannot or will not understand the new situation.

The principles of economic and social reform are forcing all social institutions, including research institutions, to seek new sources and ways of financing their activities, in conformity with the idea of self-government as the main principle of Yugoslav social development. The Universities and Faculties are therefore also called upon to make a greater effort to provide the necessary funds for their research.

The concept of academic research

But the views which show a misunderstanding of the new approach to the financing of research are also indicative of the misunderstanding of the true nature and content of research at Faculties and Universities.

The quotations which follow will demonstrate that differences over the sources of financing are in fact differences over the understanding of the concept of research at Faculties and Universities.

The VIIth Plenary Meeting of the Federation of Yugoslav Universities (held on 2nd and 3rd October 1964) heard a report on "Research Work at the Universities", in which the following point was made:*

"Irrespective of the division of research into fundamental, applied and development, it should be stressed that research is unique and that reciprocities between these different types are steadily increasing. It follows from this that universities cannot remain autarchic research establishments, closed in themselves, but that they should become integrated into the general scheme of research institutions and become part of the country's research potential.

"However, university research has its own specific features. It has always been directed to fundamental investigations in the first place for which the university is a rightful place..."

* The report was read by Professor S. Macarol.

During the discussion, however, the following opinion was heard:*

"The question is often raised whether fundamental or applied research should be given priority at the university. The issue is a rather controversial one and I would like to comment on it. In my view, there is no room for science where there is no fundamental research. But it is a mistake to go to the extreme in this direction. Professor Macarol's report suggests that fundamental research should be stressed as a specific feature of university research work. It is probably useful to stress this, because this kind of research is largely neglected since funds for it are difficult to obtain. However, I feel it would be wrong to insist – even if only in theory – that universities should engage exclusively, or primarily, in fundamental research. This would be wrong from the point of view of teaching: quite rightly, I think, we always insist on the close interdependence between teaching and research. As long as applied disciplines, and even specialist ones or those still in the process of development, are taught at Faculties, we shall also have to conduct research in them. This is also the logic of history. For centuries, classical universities opposed the faculties of technical and engineering sciences, and fundamental disciplines became a substratum of technical sciences. But that was the situation in the past. Nowadays this is no longer the case: technical and engineering sciences – which are, by and large, applied sciences and which include what has come to be termed development research – are now recognized everywhere. The whole of our society and our economy needs our help with specific problems. And who should help them if not the universities? This is also the most economical solution, because it is at Faculties and Universities that the most rational concentration of resources, both human and material, is possible."

The organisational measures mentioned earlier advocate "a careful balance between different types of research, that is, fundamental, applied, and development research. The Federal and Republic Research Funds should be geared to this too...".

Later, it was felt that "in view of the fact that the universities cultivate theoretical and fundamental research in the first place, we should insist that this work should be financed mainly through Republic Research Funds...".**

Finally, one more opinion:***

"The division into fundamental and applied research is a well-known one. Although the distinction cannot be made along very rigid lines, it can be said that fundamental or basic research is of the kind which is geared towards the discovery of the laws of nature or towards the formulation of systematic statements about the phenomena in certain fields; applied research, on the other hand, serves to develop further certain already defined areas or to work out the technological application of different research findings. Those whose attitude to research is snobbish, value basic research much more than applied. But such views have often been criticized and corrected; a successful applied research scheme poses three requirements: first, a review of everything already known about the problem

* Professor J. Hahamović.

** Dr. M. Marković, *op. cit.*, p. 29.

*** Dr. M. Radojković, "Neki aspekti organizacije naučno-istraživačkog rada" (Certain Organisational Aspects of Research), *Univerzitet danas*, 5, 1967, p. 16.

at hand; second, the application of this knowledge to the specific problem; third, the verification of the proposed solution to determine whether it is successful or not. These three requirements make applied research extremely difficult but also extremely valuable". The author ends by asking how it was possible that a research potential of the kind that universities possessed could have remained idle for so long instead of being used to serve the needs of society, science and economy.

It follows from this that all types of research should be represented at the university and not only fundamental research (financed solely from the budget through public Research Funds). It is wrong to discard other types as merely "practical" or "degrading for the dignity of university research". When university research begins to cast its net so wide as to cover all possible types, then the problem of financing will certainly be resolved much more easily than it is now.

Research personnel

The next question to be considered is that of research personnel. The difficulty in Yugoslavia is not only that there are comparatively few skilled researchers but also that a considerable proportion of them fail to develop their potential either because they switch to other, better paid tasks or because they spend a great deal of their time on political or public work.

Many of the Assistant Lecturers now employed in Yugoslav Faculties and Universities can hardly be regarded as prospective research workers in the proper sense of the word.*

Post-graduate courses should play an important role in the preparation of future research workers and scholars. It has already been said that two types of post-graduate courses exist – courses for specialization and courses for scholarly development. It is this latter type which should produce young research workers, but the results so far have fallen short of expectations. The reasons were twofold: first, post-graduate courses have not always been geared towards this objective; and second, there are still a number of disciplines and branches in which no post-graduate courses have been introduced. One of the ways in which these shortcomings could be overcome is by an integration of post-graduate study in contrast to the existing fragmentation. So far each Faculty and University has tended to organise its own post-graduate courses in all disciplines, regardless of the feasibility or justifiability of such a move in each particular instance. (See Chapter V above in this connection).

The relations among research units

Finally, one more organisational question, namely the relations among the different units of each Faculty.

* A recent analysis made by the Belgrade University Chancellor's Office shows that 70% of all Assistant Lecturers are over 30 years of age, and more than 50% are over 35. 39.5% of them have no publications to their name; only 25% are attending post-graduate courses, and as few as 7% are preparing their doctoral theses. It is clear that most of them are engaged in professional-technical as against scholarly-research activities. Similar findings are quoted by Dr. M. Marković, *op. cit.*, p. 31. Although these figures may not be representative of other universities in the country, they are nevertheless interesting because they highlight the problem of teachers' attitude to Assistant Lecturers and that of society's attitude to research.

We have already described two kinds of research institutes — Faculty nstitutes and University Institutes. It should be made quite clear that nstitutes, though independent, should be most closely linked with Faculties nd Universities and represent an integral part of their activity. However, here have been attempts to weaken these links and to make Institutes ndependent in the sense of divorcing them from Faculties. Such developnents have led to unnecessary and undesirable friction between those engaged in research and those engaged in teaching. Some teachers have tended to neglect their teaching function and to concentrate mainly on research. It is important therefore to spell out most carefully the rights and duties of the founding Faculty and of the Research Institute in each particular case, so that both teaching and research functions are properly fulfilled.

Grading of research staff

Another question that is of some practical importance in this connection is the grading of research staff. The Law on Higher Education (Art. 4) makes the following stipulation.

"Specialist and senior specialist staff members, as well as researchers, senior researchers and research advisers shall take part in the fulfilment of the technical and scientific tasks of their institutions and in the preparation of young specialists and research workers."

This would indicate that there are, at Faculties, "pure" specialist and research people, distinct from those engaged in teaching. If this interpretation is accepted, it becomes clear why it is very difficult to get any teacher to switch into a research job. However, if these positions are only descriptive of the institute tasks, then it is quite feasible that both researchers and teachers should work together in institutes. In actual practice, researchers are still treated differently from the teaching staff. Very rarely does a Faculty Board treat specialist and research staff members in the same way as the teachers — which may be one of the reasons of friction between Faculties and Institutes.

VIII

ORGANISATION AND METHODS OF TEACHING; TEACHER-STUDENT RELATIONS

The Common Outline points out that one of the major weaknesses in present higher education systems is the lack of contact between teachers and students, in other words the depersonalization of higher education. The problem could be solved by improving the teacher/student ratio – especially in Yugoslavia where, as already shown, the ratio remains very unfavourable (particularly as regards auxiliary teaching staff) – but financial reasons make this difficult. The Common Outline suggests that other ways of solving the problem should be explored, such as the effect of teaching methods.

The question here is how team teaching, the tutorial system, seminar and small group work have been organised and how the teachers' effective time with students is utilized.

Another question is whether the reform – by introducing "modern" teaching methods – has improved the relations between teachers and students.

Modern teaching methods

From the outset we should like to note that the utilization of "new, modern, progressive" teaching methods is dependent on –

a) the teachers who may or may not have an inclination towards such methods;

b) the number of students involved, so that they may or may not be broken into smaller groups required for the application of new teaching methods;

c) the number of available Assistant Lecturers helping the teacher and applying new methods under his supervision;

d) the number of teachers of all categories who can engage in day-to-day work with students;

e) the availability of physical facilities (classrooms, offices, laboratories, etc.) needed for the proper application of new teaching methods.*

* The factors which sometimes thwart attempts at introducing new teaching methods may seem "prosaic" but they are nevertheless very important. The experience

The starting point for our discussion will be quantitative indicators of time, space and teacher/student ratios, because these are, in our opinion, key factors for the application of appropriate teaching methods.

If any conclusion is to be drawn from the data presented and analysed in the preceding chapters, it can be said that neither new nor older higher education establishments (Faculties and Colleges) have succeeded in developing adequate teaching methods during the period of the reform.

The situation is more or less the same at all Faculties and Universities. Faculty and University Statutes stipulate the methods to be used in teaching, speak about the use of teaching aids (audio-visual equipment), and about the facilities for practical work for students.

Thus, it can be said that the teacher-student relations and the teaching methods in the Yugoslav universities are improving only to the extent allowed by the material conditions in which the whole system of higher education is obliged to operate.*

Two schools of thought

But once this is said, the question still remains whether this state of affairs should be regarded as satisfactory, whether large class lectures, seminars and small group work really make for progress in higher education, and whether the problem of space is so serious that it renders the introduction of new forms of teaching impossible.

Answers to such questions will throw some light on the other side of the coin and perhaps correct our impression of what has been done and what could be done in this sphere.

It will be interesting in this connection to quote the view of D. Sergejev, Assistant Lecturer at the Faculty of Arts and Letters in Zagreb, who spoke about the reform of social science faculties at a conference on "Social and Economic Aspects of Education", organised by Zagreb University in 1967.

He is an advocate of the so-called active participation of students "who should remain in the foreground, work actively, lecture, talk, discuss, analyse their own and other people's experience, while the teacher is there only to help them and explain what is absolutely necessary". It is very doubtful, according to Sergejev, whether a 10:2 ratio between lectures and seminars is what is needed and whether the kind of seminar in which most of the talking is done by the teacher is the most effective one. He then mentions the following problem: "The weekly load on students is about 30 hours. First-year students — at the point which is decisive for their

of the present author is a case in point. He teaches about 250 fourth-year students of economics and could profitably present his material by means of the case study method. However, the method is unworkable with such a large number of students. He would have to form at least 10 groups and give five cases to each, which would mean 50 sessions per semester. This is clearly more than can be squeezed into the already tight schedule that the students are obliged to follow. When a teacher has 250 students, he can hardly see each one individually once during the academic year.

* According to Dr. G. Gamulin speaking at the XIth International Seminar "The University Today", Dubrovnik 1966; see his paper "Nastavne metode u studijima kulturnij i historijskih disciplina" (Teaching Methods in Cultural and Historical Studies), *Univerzitet danas*, 3–4, 1967. Another paper on the same subject is that by Dr. S. Marjanović, "Neka iskustva iz organizacije nastavnih metoda" (Some Experiences in the Organisation of Teaching Methods), *Univerzitet danas*, 5, 1967, p. 47.

future work habits and attitude to studies – blindly follow the schedule imposed upon them and become disinterested, mentally lazy and robot-like." Finally: "The capacity of the Faculty is often not seen as the capacity of classrooms, reading-rooms and laboratories but rather as the seating capacity of its lecture halls: for studying is seen as a mere attending of lectures."

Noting that the reform is designed to establish different relations between teachers and students, the author points to the obstacles that make changes difficult: "Words of caution are often heard at Faculties nowadays, especially from the older generation. Let us not rush into changes, let us not overdo things – say such people. And we should, indeed, reckon with such views. We should make our reforms a demonstration lesson to show what should be done and how in order to transform the Faculty."

"The reform is sometimes also hampered by an unduly reverent attitude towards tradition. Not everything that has survived through centuries is necessarily good for that reason. Tradition contains elements of folly and superfluity that we should try to overcome; and it contains positive values that we should respect... Our attitude towards the past must be critical and appreciative at the same time."

D. Sergejev concludes: "If this activist concept is adopted, we shall suddenly see a new organisational nucleus emerging at the Faculty. Instead of a passive mass of students, we shall get active participants in practical classes, seminars, discussions, examinations, research projects, etc. But once we opt for an active student, we shall realize that a student of this kind must have enough free time, that it is ludicrous to burden him with 30 hours of passive sitting at lectures every week.* We shall then also realize that active students are unthinkable without close contacts with teachers and without regular assignments and regular checking of the students' own work. At the same time, we shall see that any requirements which lack deep justification represent an obstacle to efficient study. In the end, we shall become aware that we are ourselves partly to blame for the students' inactivity, for the prolongation of the length of study, and for stimulating the development of empty orators rather than thinking individuals".

The above quotation illustrates:

- the intention behind the reform of teaching methods;
- the attitude to traditional teaching methods at Faculties;
- the resistance to the new methods which would make for better teacher-student relations.

It is obvious, however, that the problem of teaching methods cannot be treated in isolation but only as part of the overall complex of higher education, including syllabuses and curricula and all other aspects that we have already dealt with.

This is the framework within which adequate solutions must be sought:**

* The author advocates a weekly load of 8 hours of lectures and seminars, in the form of dialogues with students, which would leave enough space and time for work with groups not exceeding 25 students.

** Dr. P. Šimleša, speaking on modern trends in the reform of higher education, at the conference organised by Zagreb University in 1967.

"*i*) Two phenomena appear as a result of the accelerated development of science and technology:

a) obsolescence of syllabuses and curricula;

b) curriculum over-extension;

And two solutions suggest themselves in this situation:

a) excision of certain parts of syllabuses and curricula,

b) the system of teaching by example.

ii) Science and technology develop quickly and equally quickly go out of use. The possibility of training "semi-skilled scholars and scientists" must be discarded.

This situation can be resolved in two ways:

a) by abandoning narrow specialization,

b) by preparing students to continue their education on their own."

The conclusion from this public discussion of the problems of higher education was that "the main precondition for the achievement of better results in Faculties, Colleges and other institutions of higher learning should come not from textbooks but from work in seminars. Systematic preparations for serious study should already begin in the secondary school. Greater efficiency of institutions of higher learning can be achieved by abandoning 'ex cathedra' methods of teaching and encouraging a more active approach on the part of students themselves."

This survey indicates the extent of vacillation with respect to teaching methods,* the struggle between the old and the new, which has not yet ceased. A consensus can be said to have been reached regarding the need to apply new methods, but when it comes to their actual application in practice resistance is still strong, often concealed in talk of difficulties resulting from the shortage of space, equipment and financial resources.

* A theoretical examination of the problem can be found in the book entitled *Osnovni problemi fakultetske nastave* (Basic Problems of Faculty Education), published by the University of Novi Sad, 1966.

IX

ROLE AND STATUS OF STUDENTS

Two subjects will be discussed under this heading:

i) The participation of students in the decision-making process within Faculties and Universities.

ii) Their living conditions and material welfare in general.

Student participation

The role and place of students in the academic community, in Faculties and Universities, must be set in the context of the Yugoslav system of self-government which is characteristic of all aspects of life in the country, including higher education.

Once the principles of university government were legally determined, in accordance with the Constitutional provisions, discussions began about the students' position within the self-governing mechanism in higher education.

The Croatian Law on Higher Education, which is in agreement with the Federal Law and the Constitution, stipulates that " students shall take part in the government of the institutions of higher education " (Article 96).

More detailed provisions in the same general spirit can be found in the Statutes of individual institutions of higher education. These provisions show a broad range of solutions designed to enable the students to take part in the running of Faculties and Universities.

The Statutes list the questions that the Faculty Councils can consider only after they have been debated by students at their separate meetings. The Councils of all institutions of higher education include members elected by the students from their own ranks.

These Councils decide on all questions of general importance for the organisation and work of their institutions; they also consider the students' living and working conditions and all other matters envisaged by law and by the Statutes of each particular institution. The Council adopts the Statutes of the institution, the financial plan and annual balance sheet; it confirms all appointments and generally regulates the life of the institution.

The student representatives in the Council do not take part in debates on teachers' salaries.

The Students are also represented in the Managing Boards of all institutions.

The student representatives also take part in the work of the Faculty Boards (consisting of all teachers and representatives of the auxiliary teaching staff) when these discuss questions relating to the organisation of teaching, examinations and other matters affecting the students. The student representatives are entitled to speak on such occasions and to submit their own views and proposals. The mode of their participation in the Faculty Board deliberations is determined by the Statutes of each institution.

Students are also represented in University Councils. Among the members of each University Council are those elected by the students in institutions belonging to the university.

The above survey of the legislation relating to the participation of students in the decision-making process in institutions of higher learning shows that students enjoy all rights within the system of self-government. However, when their status was discussed in connection with the modifications required in Faculty and University Statutes to bring them in line with the new Constitution, the view was expressed that students could not be regarded as equal members of the working organisations involved (i.e. institutions of higher learning).

Statements of the following kind were then made:*

i) Through their elected representatives, students participate in the work of all self-government bodies at Faculties and Universities when these deal with questions of organisation of study, syllabuses and curricula, individual students' problems, students' financial situation, scholarships, loans, etc. However, they do not take part in decisions involving personnel matters (appointments, promotions and similar) but they can voice their criticism and make complaints about individual teachers. The Statutes of each institution should define the scope of activity of the students' representatives.

ii) Special bodies should be formed, Student-Teacher Committees, in which students and teachers would together discuss particular issues arising at different levels of study. Through this body, students would make their wishes, demands and criticisms known and, if necessary, submit their suggestions and proposals to the Faculty organs of self-government.

iii) The student organisation (The Yugoslav Student Union), whose leaders should always remain in touch with the Faculty and University authorities, will carefully watch all developments and promote the interests of students at every point.

It is clear from the above that a certain amount of opposition was felt to the participation of students at some points in the decision-making process, notably in personnel (appointments, re-appointments and promotions) and financial matters (financial plan, distribution of funds, fixing of salaries, etc.).

* M. Šnuderl, speaking at the plenary meeting of the Federation of Yugoslav Universities; "Prilagodavanje fakultetskih i univerzitetskih statuta novom Ustavu" (Modification of Faculty and University Statutes in the Light of the New Constitution), *Univerzitet danas*, 9–10, 1963, p. 369.

The opposition was not equally pronounced everywhere: although the status of students should have been the same at all Faculties and Universities in the country, some Faculties tended to regard their students as members of their working communities, while others refused to do so (claiming that "employment" was the sole criterion on which self-government rights were based).

The legislation settled the question by giving students greater rights than those which the opponents of student participation were prepared to recognize. Students are entitled to take part in decisions of a general financial nature, though not in those regarding the salaries of the teaching and other staff.

The next question to consider is how these rights of student self-government are implemented in practice.

However, before this question can be answered, a remark of a more general nature should be made about the functioning of the system of self-government in higher education. This system is still in the process of development, and can in no way be regarded as completed. There are vaccilations, misunderstandings and concealed opposition. It is often said that real self-government is impossible so long as institutions remain dependent on outside sources of finance over which they have no control. This is true, but it is also true that the "distribution of funds" is by no means the only way in which self-government operates. The development of new and better human relations, the abolition of the monopolistic position of groups and individuals, the involvement of all people in all activities, the creation of a new climate — all these are worthy tasks for self-government bodies.

The participation of students (and not only students) in the system of self-government defined in these terms is often more formal than real. This is due not only to the fact that the system is not yet fully developed, but also to an inadequate organisation of the students themselves. Not infrequently, their representatives in different bodies of Faculty or University self-government remain inactive or altogether fail to voice the views of the student masses. This is the problem faced by Student Union organisations at many institutions of higher education. On the other hand, it should also be recognized that the treatment of students by University and Faculty authorities is sometimes such that their active participation in self-government becomes plainly impossible.

Two examples will illustrate the two types of problems.

A telling proof of the student organisation's inadequate effort is found in the fact that nothing much has been done to improve the efficiency and shorten the actual length of study.

As for the discouraging attitude of University and Faculty authorities, this can be seen in the fact that many of them failed to invite students to take part in the preparation of new Statutes for their institutions.

There is one body, however, which has not been established by law but in which students have shown considerable interest. It is *the Student-Teacher Committee* (for each department or year of study), whose existence now seems fully justified. Student-Teacher Committees include all teachers and the auxiliary teaching staff of a given department or year of study and the representatives of students of that department or year of study. It is

felt that Student-Teacher Committees, given greater rights and a better defined frame of activity, could become a valuable part of the mechanism of academic self-government.

The students' socio-political organisation, the National Student Union of Yugoslavia, should play a major role in the introduction of students into self-government. The main problem now is how to go beyond students' formal representation in different bodies, and how to make them an active factor of the system of self-government.

Students are expected to work better, to make better use of the educational system, and to achieve better results. The most important task for the student organisation is to encourage its members to shorten the actual length of study and to graduate within the prescribed period of time.

The second most important task for the National Student Union and all its branches is to advocate the modernization of teaching methods and techniques.

Through their representatives in Faculty and University bodies of self-government, students should fight for improved programmes of instruction, better organisation, more modern equipment and better living and working conditions in general.*

The law and the Statutes enable students to operate in all these areas, and it is only up to them, their interest and organisational ability, to make use of the opportunities given to them.

Student welfare

The plenary meeting of the Federation of Yugoslav Universities held on 2nd and 3rd October 1964, concluded as follows:**

i) The material position of students is steadily deteriorating. The number of scholarships is decreasing, while the increase in the number of loans is not very marked. The average student income has not followed increases in the rest of the population, let alone price increases.

ii) The question of students' material welfare has never been discussed systematically, in all its aspects, and on a long-term basis.

iii) The students' unfavourable material situation is one of the major causes of their unsatisfactory performance in studies and is thus an adverse element in the whole system of higher education.

It is perfectly true that the problem has not been properly examined and we shall therefore try to explore the following three of its aspects:

- scholarships
- loans
- refectories and halls of residence.

i) *Scholarships*

Scholarships have so far been one of the main ways in which assistance to students has been given. In 1959–1960, 28.7 % of all full-time students

* Cf. D. Stanković, "Efikasnost i kvalitet studiranja" (Efficiency and Quality of Study), *Univerzitet danas*, 4, 1965.

** S. Milkić, "Neka pitanja materijalnog obezbedenja studenata" (Some Questions of Students' Material Welfare), *Univerzitet danas*, 1, 1965, p. 60 ff.

received scholarships; in 1960–61 the figure rose to 29.3 %. (More recent data are given below when the situation at different universities is reviewed separately).

The following problems have been noted in connection with scholarships:

— Scholarships were rather low. In the early part of the period under review they were fixed by law at 6,000–8,000 dinars, at the time when an average monthly salary was about 22,000 dinars. Later the Law on Scholarships was changed and no fixed amounts were prescribed. Incentives were also envisaged for successful students, but these were given mainly to senior students of engineering, economics and medicine.

— Scholarships were not awarded according to any coherent plan or system.

— Only a minority of the students received scholarships, while the majority were left without any kind of material assistance.

— Frequent disputes arose between graduates (the beneficiaries of scholarships) and donors.

— Scholarships were paid through Faculties (in order to check the beneficiaries' performance in studies), which meant that the contacts between the donors and their students were not direct.

With the beginning of the economic reform in 1965, the students' material situation worsened: cost for students living outside student halls of residence went up by 75 % between 1964 and 1965.*

At the same time the number of scholarships decreased. The trend continues, because many industrial organisations, operating under more stringent reform conditions, feel they cannot afford to give scholarships. Apart from refusing to give new scholarships or to provide funds for those already granted, some firms decline to employ their graduates, preferring to write off the amounts spent on them in the form of scholarships.

ii) *Loans*

Loans represent a new instrument of care for the material welfare students. But they also represent a continuation of two earlier forms of assistance:

- the student assistance funds formed by each student paying 200 dinars at enrolment each semester;
- the loan funds which some Faculties formed from the regular grants received from the budget.

The new system of loans was set up in the form of the *Student Loans Fund.* All full-time students may apply, but the actual distribution is by competition. Repayment begins a year after graduation, or six (in some cases seven) years after first-year enrolment irrespective of whether the student has already graduated or not. The repayment must be made within the maximum of 10 years.

During the last two years the Fund has been unable to meet all requests for loans, simply because the amount of money available for this

* S. Skarić, "Analiza materijalnog položaja studenata i sprovodjenje novih privrednij mjere" (An Analysis of the Students' Material Position in the Light of the New Economic Measures), *Univerzitet danas*, 9, 1965, p. 40 ff.

purpose has been insufficient. If it were not for this limitation, the system would develop much faster than it has in fact done.

At present, therefore, the two systems, scholarships and loans, are equally important for the material welfare of students. Long debates have been held about the relative importance of the two systems and differences between them, but no clear-cut solution has yet emerged regarding the different objectives of each of them.

It is becoming increasingly clear, however, that in view of the falling interest of scholarship donors and of the numerous shortcomings of the scholarship system, much more attention will have to be paid to perfecting the system of loans. Without denying the value of scholarships, it is felt that the system of loans is better suited to the new economic and social situation. The following are said to be the advantages of loans:

— If loans were available to every student (under normal conditions), he could choose the field of study in which he is most interested.

— Loans could be seen as a form of manpower investment.

— The system of loans can be easily adapted to provide incentives for good students.

— The system clearly shows every student what his obligations are and warns him that he cannot study, at the expense of the community, for as long as he pleases.

Since only 40% of all students receive material assistance in the form of scholarships or loans, many more are forced to solve their material problems in other ways, which also has an adverse effect on their studies.*

iii) *General comments on student assistance*

The following statements could be made in connection with the students' material position:

A permanent system of catering for students' material needs is required instead of partial and provisional solutions.

Objective criteria for the award of scholarships and loans should be worked out and strictly applied.

Scholarships and loans should serve not only to meet students' material needs but also to stimulate them to study seriously and graduate in time.

Scholarships should become an element of personnel policy in organisations giving them and should be given according to the organisation's actual manpower needs.

Loans should be available to all students who satisfy certain academic and material standards.

Three characteristic figures should be borne in mind when considering these questions:

— 40% of all students study seriously and graduate;

— 60% are only an unnecessary burden on institutions of higher learning;

— only 65% of the 40% of students who receive loans and scholarships graduate.

* In Zagreb, students can get part-time jobs through the Student Service Organisation but these are also more difficult to find in the new economic situation.

What is needed therefore is a system that will be linked with the financing of the whole of higher education, a system of educational investment in which the rights and duties of those granting the assistance and those receiving it will be clearly defined.

iv) *Refectories and halls of residence*

Two points should be considered in connection with this subject:

- refectory and residential facilities,
- conditions of economic operation of student refectories and halls of residence in the new economic situation.

The capacities of student refectories and halls of residence vary from one university centre to another (see further below), but the situation can be regarded as reasonably satisfactory and there are even signs of improvement.

The second aspect of the problem, the economic one, is rather more serious. Formerly, subsidies and grants used to be given to such institutions regularly and they represented an important form of the Community's contribution to the material welfare of students.

Now, however, with the introduction of the measures of economic reform, student refectories and halls of residence have been put on an entirely economic basis and are expected to operate in the same ways as all other business organisations of their kind in the country. All grants and subsidies have been cut and the prices of their services are now normal, economically determined, prices. There are just a few benefits that such institutions are granted because they are classed among the so-called "institutions of special social significance", but these are not very clearly defined. Thus, for instance, the "Studentski centar" in Zagreb, which runs all student refectories and halls of residence in the city, operates only in accordance with its own Statute, which does not rest on any special legislation regulating its role and position.

It is only to be expected that "freely formed prices" may affect the students' living standards and result in other undesirable consequences.

We shall now review the situation in different university centres in the country.*

University of Skopje

Total full-time enrolments in 1966–67 were 7,630. About 1,600 students were taking their meals in student refectories and canteens, paying 16,800 old dinars a month (on 1st October 1967). The full economic price was 19,300 old dinars; the difference between this and the price actually paid by the students was covered by the Macedonian Government.

The student halls of residence had 2,590 beds and each resident paid 6,200 dinars a month. An application was made to the Republic authorities to exempt the halls from paying depreciation.

Only 24% of all full-time students were receiving loans or scholarships: 8.84% received loans and 16% scholarships. The average monthly

* According to the data contained in a report prepared by a Zagreb University Student Union working party and presented to the Zagreb University Council in December 1967.

amounts were 17,000 old dinars for scholarships and 18,000 old dinars for loans.

All students were entitled to free medical service in the University Medical Centre and in all hospitals to which the Centre sent them. The Centre was financed by the Republic Government and the Macedonian Social Insurance Authority.

University of Niš

Only 485 out of about 8,000 full-time students can be accommodated in student halls of residence. A new hall is now under construction (financially supported by the government of Serbia), so that about 100 beds will be added in the near future. The full price is 6,700 old dinars a month, of which 5,700 is paid by the residents and the rest is covered by a special grant.

In 1966–67, loans were given to 581 students; the average monthly amount was 17,400 old dinars, promised to be raised to about 25,000 dinars in 1967–68.

The University does not have a medical centre of its own, so that students get their treatment in out-patient clinics in the city. For those who are not socially insured (through their parents and in other ways) medical services are financed by the Student Health Fund, in which 70% of the money comes from the University and 30% from the Students' Mutual Assistance Fund.

University of Belgrade

Out of the total of 42,890 students, 10,500 are accommodated in student halls of residence where they pay between 4,400 and 5,700 old dinars a month, depending on the amenities offered by each particular hall. Student halls of residence are exempt from the payment of interest on credits and depreciation charges.

Prices of meals vary in different refectories, but the average is about 13,800 old dinars a month. The actual economic price is about 18,000 and the difference between this and the price paid by the students is covered by the University and the government of Serbia. The University distributes about 500 million worth of meal vouchers each year.

About 7,500 students, in fact all those who had applied, received loans in 1966–67. The average monthly amount was 17,500 old dinars. In 1967–68, about 10,000 students are expected to receive loans averaging 25,000 old dinars a month.

All full-time students are entitled to free medical services in the University Medical Centre. The cost of treatment in the case of students who are not covered by the national health insurance scheme is borne by the University.

University of Sarajevo

The total enrolment at Faculties, Colleges and Two-year Post-secondary Schools is about 10,500. About 2,500 students get their meals at student refectories at the price of 14,280 old dinars a month. The difference between

this price and the full price of 17,280 old dinars is paid by the Republic Educational Association of Bosnia and Herzegovina.

The number of beds in student halls of residence is 2,140. The monthly charge is 7,800 dinars, while the actual cost is 9,860 old dinars per bed. The difference between this and what the students actually pay is again covered by the Republic Education Association.

In 1966–67, loans were mainly given to students enrolling in subjects in which a shortage of qualified people was felt. The average monthly amount was 25,000 old dinars. This year loans will be available to students in all subjects.

University of Ljubljana

The University of Ljubljana has 2,480 beds in student halls of residence, and prices range between 7,120 and 10,100 old dinars, depending on the quality of the hall and of the room. Each bed is subsidized with 1,300 old dinars a month by the Educational Fund. This year, applications for loans have been received from 1,928 students; 1,678 applications have been granted. The average monthly amount is 18,700 old dinars.

The Student Health Centre in Ljubljana is a separate institution providing medical services for all full-time students.

The examples quoted here show that the situation is different in different university centres, and that local authorities in different parts of the country do not contribute equally to students' material welfare. But these examples also show that the approach to the material aspects of student life has not been fully and satisfactorily determined.

v) *Medium-term solutions*

- The nature and purpose of scholarships should be radically reviewed: only gifted students should receive scholarships and those enrolling in subjects in which a shortage of qualified people is felt.
- The system of loans, as the main form of providing for students' material needs, should be developed more quickly. It should be made as flexible as possible, so that all bodies interested in the training of higher education graduates could contribute.
- The institutions which in any way enhance the students' material position should be subsidized or be treated as "institutions of special social interest".

X

HIGHER EDUCATION AND THE OUTSIDE WORLD

Why is higher education isolated?

The question, "What constitutes the isolation of higher education?" is implied by the statement in the Common Outline that "a major complaint about higher education in many countries relates to its relative isolation from the outside economy and society in general and from industry in particular. Modern higher education establishments should in this respect fulfil, it is being said, several types of functions which all, in a certain sense, can be grouped under the heading 'Public Service Concept'. This implies a more active role in areas such as adult and continuing education, extension services, research contracts with government and industry, etc. But successful innovations in these fields might often require a radical change in the prevailing idea of the university, i.e. in the concept of its place and role within society."

One of the main aims of the reform of Yugoslav higher education was the "opening of higher education to the outside world". This formulation implies that isolation had existed and that the reform was designed to break it. However, the isolation of higher education should not be seen only in the area of adult education and research contracts with government and industry. (These two aspects have already been dealt with in this study: adult education in Chapter II, and research contracts with government and industry in Chapter VII. The problem of the relation between higher education and the outside world should be seen in much broader terms within the general framework of the Yugoslav social system.

Apart from the two aspects mentioned above (adult education and research contracts), the Yugoslav reform also tackled certain other aspects of isolation or opening of the system of higher education, such as

- democratization of enrolment,
- better territorial distribution of institutions of higher learning.

Finally, it is important to stress once again that there are certain elements of self-government, specifically Yugoslav in their origin, which should also be regarded as operative in breaking down the isolation of higher education from the outside world.

As for the "public service concept", the term is a rather disparaging one in Yugoslav usage (in any field of activity). This is not to say that the

place and role of the university is in any way minimized: its educational and research importance is fully recognized and its dominant role in these two areas uncontested.

The whole subject of the relation between higher education and the outside world can be reviewed under the following three headings:

a) Elements of opening towards the users of higher education and the outside world are covered in Chapter IX above.

b) Connections between higher education and the outside world are also shown clearly in the chapters dealing with research, specialization and organisation. Certain financial aspects of such connections will be examined in this chapter.

c) The relation between higher education and the outside world seen in the "authority" exerted by society over the institutions of higher learning will be discussed at this point.

The authority of society

By law, all institutions of higher learning are autonomous and self-governing working institutions whose activity is deemed to be of special interest for society.

It is precisely this latter characteristic which has led to the participation of representatives of different socio-political communities (Republic, district, municipal) and of interested working and other institutions in the running of institutions of higher education. These representatives act as members of the Councils of such institutions and they take an active part in decision-making processes in connection with statutes, curricula, financial plans and other matters in which the "outside world" is most directly concerned.

The same is true of the University as an association of institutions of higher education.

Thus, legislative provisions are designed to provide links between higher education and society (or the outside world).

The introduction of social self-government has radically changed the relation between institutions of higher education and society. Social forces can now actively direct the development of higher education. Industrial and other social institutions are most closely linked with institutions of higher education. All this makes it possible to break the isolation of such institutions and to make the vital concerns of society felt in Faculties, Colleges and Universities. Equally, society can thus get to know and better understand the problems of higher education.

These were precisely the main objectives of the reform of higher education which must be regarded as only one aspect of the broader reform of social life in Yugoslavia.

The system in practice

The only thing that remains to be seen is how the system behaves in actual practice. It should perhaps be said that the practical implementation of the principles described here has not yet produced the expected results. But the blame for this does not fall on the institutions of higher education. The fact is that the tasks of the representatives of the "outside world" in self-governing bodies of such institutions are clearly defined but the manner of their election and the selection of personalities representing

different organisations has not always been very happy. It often happens that these representatives are formally nominated by their organisations, regardless of their wishes or inclinations, and that they do nothing in these bodies to promote society's interests or those of the institution on whose governing body they sit. Such representatives fail to "live" with the institutions to which they have been nominated or to contribute to establishing links between these institutions and society. This could easily make the isolation of the institutions even worse than before.

In addition to this "statutory" relation between higher education and society, there are numerous other ways in which individual institutions of higher education break down their isolation and establish close working relations with industry. An integration between such institutions and industrial and social organisations is desirable and possible. Attempts are being made to establish links between them but no systematic solutions have yet been worked out and misunderstandings frequently occur.

The first question that is often raised is whether an industrial organisation is entitled to run its own school, to train its own personnel (such as the schools run by Fiat, Olivetti, etc.). The answer to this question is that such possibilities do not at present exist in Yugoslavia. However, groups of firms are allowed to establish some kind of patronage over an institution of higher education. (Such, for instance, was the case of the Two-year Post-secondary School of Foreign Trade in Zagreb).* One might ask, in principle, whether integration of this kind is desirable and what kind of problems can be expected in connection with it. To answer the second part of the question first, it could be said that the most important thing is to preserve the standard of education corresponding to the requirements of higher education. Excessive specialization should be avoided, as it may make re-training and further education difficult — and both are needed at a time of rapid scientific and technological development. Education in such institutions should not be merely practical, without any theoretical instruction. On the other hand, it is clear that industrial organisations which contribute financially will have certain requirements as regards teaching and curricula. In Yugoslav practice so far, these matters have usually been settled by contracts in which not only the interests of the donor but also those of the educational institution and of society at large have been safeguarded.

Finance

The foregoing outline is intended to illustrate the differences that still exist in this sphere and the possible solutions that have been proposed and practically tested. Another reason why this was mentioned is that there are certain legislative provisions in the field of higher education which envisage financing through the so-called *Branch Educational Associations.***

It has been said that the accumulation of resources for education should be made at the level of a group of working (industrial) organisations

* Another possible form of co-operation is industry's direct financing of certain types of graduate study.

** More will be said about Educational Associations in Chapter XII on Cost and Financing. At this point the approach to financing will only be discussed in the light of the idea of *Branch Educational Associations.*

(belonging to a branch or several related branches), forming their own Educational Association and financing, among other things, certain activities of institutions of higher learning.

This is the way in which the new Law on Educational Financing seeks to establish links between institutions of higher learning and economic and social organisations. It is not our intention to go into the details of this scheme and to consider all the pros and cons that have been expressed in discussions about it, but there is one point that is of vital importance and that cannot be left out of consideration.

A distinction should be made between the basic activities of an institution of higher education and its additional initiatives. The distinction is a rather fine one, as the former includes the latter. But an institution's overall activity can be said to consist of the following elements:

i) Basic activity: teaching and research. This is what characterizes an institution of higher education as one of "special interest for society". Enough has been said about this basic activity and it is quite clear that adequate finances should be provided for it.

ii) Additional research activity: research projects ordered by contract. Money for this activity comes from the Research Fund or from any business or other organisation sponsoring the project.

iii) Additional teaching activity financed by those for whom it is carried out.

If Faculties develop their activity and engage in additional teaching or research work – in addition, that is, to their "normal" activity – then we have an example of linkage with the outside world which also produces additional financial resources. Thus, the entire activity of an institution of higher education comprises both basic activity (listed under *i*) and additional initiatives (listed under *ii*) and *iii*).

The new system of financing is designed to put education as a whole in a new position and to make it possible for schools to earn money and use it as they think fit.

Institutions of higher education are encouraged to develop both their basic activities and their additional initiatives, as well as their business sense, without of course sacrificing their standards or dignity.

Let us, however, come back to the three points listing the activities of institutions of higher education.

– Nothing more need be said about the first point.

– As for the second and third points, a few remarks are needed to supplement what was said in Chapter VII (Teaching and Research).

No detailed data on the sources of financing of higher education in Yugoslavia are available, but the available data for the institutions included in the University of Zagreb (1965) are illustrative, if not indicative, of the situation in the country as a whole.

The following were the percentages of income from "other sources" by groups of Faculties and Colleges in 1965:*

* The main source of income was the Higher Education Fund, while "other sources" were usually business or social organisations paying for certain research projects. The data have been taken from Dr. A. Rozmarić's report on the financial situation of Zagreb University (published in 1966).

Table 46. PERCENTAGE OF INCOME FROM OTHER SOURCES, UNIVERSITY OF ZAGREB, 1965

Faculties and Colleges	% of income from "other sources"
Social sciences	14.8
Natural and engineering sciences	25.8
Medical sciences	15.5
Total	21.5

The total of 21.5% meant about 2,300 million old dinars in absolute terms.

A breakdown by individual Faculties and Colleges shows that there were institutions in which the contribution from "other sources" was considerably above the average for the university or for their particular groups:

Table 47. PERCENTAGE OF INCOME FROM OTHER SOURCES, UNIVERSITY OF ZAGREB, 1965

Faculties and Colleges	% of income from "other sources"
Geodetic Faculty	62.3
College of business administration	45.5
Faculty of civil engineering	44.9
Faculty of mining, geological and oil prospecting	38.5
Faculty of forestry	38.2
Engineering college	36.9

As can be readily seen from the above table, the highest income from "other sources" was recorded in institutions belonging to the group of natural and engineering sciences, in which co-operation with the outside world is natural and understandable. But one may legitimately ask whether theirs is an optimum co-operation with the outside world and whether an attempt should not be made to derive even more money from "other sources".*

The third type of activity (research projects under contract) is largely neglected in most institutions of higher education. Here the dilemmas are serious, requirements unspecified, and opposition from within the institutions strong. This is a sign not only of the lack of business adaptability but also of the failure to contribute more actively to the development of society or some of its parts.

* More details about the co-operation of technical and engineering faculties with the outside world are given in Dr. V. Muljević's paper, "Neki oblici suradnje tehnickih fakulteta i privrede" (Some Forms of Co-operation between Engineering Faculties and Industry), which was read at the 1967 Symposium organised by Zagreb University.

Adult education

Finally, before we leave this subject, something ought to be said about adult education and its place in higher education.

It has already been said that adults usually appear in higher education as part-time students. This can be illustrated with some figures, such as those showing the percentage of part-time students in different age-groups enrolled in higher education in 1964–65.

Table 48. PERCENTAGE OF PART-TIME HIGHER EDUCATION STUDENTS BY AGE-GROUP, 1964–65

	Percentage
Under 20	10
21	13
22	17
23	22
24	30
25	41
26-29	65
30-34	78
35-39	85
40	86

Source: Statistical Bulletin, 397: Higher Education 1964–65).

These figures clearly show that part-time study is a form of adult education.

It should however be stressed that adult education is regarded as an integral part of the entire Yugoslav education system, not just of higher education. The main agents of adult education in the country are the following:

- training centres and personnel departments in industrial organisations;
- Workers' and People's Universities (Adult Education Centres), which specialize in the education of adults;
- schools, school centres and Faculties;
- scientific research institutions;
- cultural societies and institutions, professional, social and political organisations.

Since the war, a comparatively rich network of institutions has been built and the outlines of a well structured system of adult education have been drawn. But greater effort will certainly be required in the coming period if adult education is to meet the increasingly complex needs engendered by the Yugoslav socio-economic and cultural development.

Of course, Universities, Faculties and Colleges, as the highest teaching and research institutions, will have a very important role to play in the development of the educational system.

An important problem which will require further elucidation is that of *part-time study*: the results achieved in this sphere so far cannot be re-

garded as fully satisfactory, nor can this be the only contribution made by the institutions of higher education to adult education.

Continuous education of graduates should also be accepted as an important task for all Faculties. At present, Yugoslav Faculties have practically no contact with their former students, while ample opportunities exist for fresh initiatives in this field (refresher courses, etc.). It is quite natural that closer links between Faculties and their former students would improve curricula and teaching and result in a better matching of Faculty teaching and practical needs.

It follows from the above that Faculties are involved in adult education only through part-time study. But it is also clear that there are many other ways in which they could be involved, and that these ways deserve further attention.

Faculties are also a natural place where research in adult education can be conducted. A welcome initiative in this respect has come from Belgrade University, where a graduate course in adult education (andragogy) is run for future specialist practitioners and research workers in this field.

Conclusion

Summing up what has been said in this chapter, it might be concluded that the Yugoslav universities have, until fairly recently, been somewhat inactive in their efforts to establish closer ties with the outside world. However, considering the fact that they had long lived in a highly traditional set-up and in a centralized system of state administration in which very little depended on their own initiatives, their inertia is understandable. But now the time has come for them to become fully conscious of their independence and autonomy and to begin to act in their best interest.

This is what the reform of higher education has made possible and what the general social reform is making possible at this moment.

XI

EVALUATION AND PLANNING

The subject of planning in the sphere of higher education has been extensively reviewed in a public debate devoted to the development of higher education.

It was then noted that manpower planning was seriously defective and that better and more systematic planning was needed to ensure adequate personnel for the planned development of the economy and social services. Institutions of higher education should be required to contribute to the fulfilment of such plans in their own fields, depending on their material, organisational and human resources.

In Part Two of this study, some of the planning elements were given which were operative in designing the reform of higher education. Difficulties were also pointed out affecting manpower planning in individual enterprises or in branches or sectors of industry. However, the question still remains whether manpower planning as described here can serve as a basis for the functioning of education in general and higher education in particular.

A closer look at the problem of planning is therefore needed. The social reform, which was a sequel to the economic reform of 1965, introduced numerous changes of system which, in their turn, greatly affected the National Economic and Social Development Plan for the period 1966–1970. The Plan envisaged a rapid increase in production and emphasized living standards, business efficiency, economic stability, etc.

The Plan also paid a great deal of attention to the conditions which were indispensable if such an ambitious and optimistic programme was to be fulfilled. One of the main tasks was a more rapid development of education, research and technological improvement; or to quote from the Plan: "Improving the level of education and culture among the people, raising the qualifications of those employed, and applying the results of intensive research — these will be decisive for the achivement of our targets in the period until 1970".

Unfortunately, the development programme thus spelled out in the Five-Year Plan seems to be lagging behind, both in quality and quantity. The rate of development is below that envisaged in the Plan and the

necessary conditions (educational and others) cannot yet be said to have been created. The procedure for the formulation of plans and other measures of economic policy has not yet evolved into a democratic process of joint decision-making on the part of associated producers. Plans are still too much a product of central bodies. Planning of this kind is, evidently, not in conformity with the system of self-government and with the basic tenets of the social reform. It actually hinders the achievement of the aims of reform and reduces certain projections, especially those in the sphere of social services, including education and research, to mere playing with figures.

Such views of planning* indicate that there are theoretical disagreements concerning the concept and role of planning and the contents of the present development plan.

In contradistinction to the centralized view of planning, there is another approach which speaks rather of a "development programme", a co-ordinated programme worked out by associations of working organisations at different levels. (This is the approach on which the draft Bill on Educational Financing in Croatia has been based). But even if this view of the "plan" is adopted (and we see no reason why it should not be) some problems still remain to be solved before the social and material conditions can be created for the preparation of a development programme of this kind. Only then can educational and financing policies be formulated and implemented.

Everything said above presupposes a new, systematic approach to planning in general and to manpower planning in particular. Our past experience with manpower planning proves that no significant results can be expected unless planning is approached in an integral fashion. On the one hand, planning should involve all socio-political communities at different levels and working organisations and their associations (such as chambers of commerce, business associations, etc.); on the other hand, an integral plan must at the same time involve educational institutions, educational associations, and educational planners in different socio-political communities.** This implies that institutions of higher education cannot be simply asked to participate, to the best of their ability, in implementing educational plans: they must also be allowed to take part in formulating them. "Only in this way can manpower and educational plans be made to reflect the needs and potentials of the economy and society".

Thus we get:

the programming of educational activities of the institution in question, involving three basic operations:

- determination of educational needs,
- determination of the educational contents corresponding to these needs,

* Discussed in greater detail by Dr. Jakov Sirotković, Chancellor of Zagreb University, in his part of the study known as The White Paper; extracts appeared in the Zagreb daily newspaper *Vjesnik*.

** Cf. Herta Hass, "Planiranje kadrova za privredu" (Manpower Planning for the Economy), *Naše teme*, Zagreb, No. 4, 1967, p. 688 ff.

– determination of the methods and techniques, as well as of material and organisational prerequisites, for conveying knowledge in such a way that the existing educational needs can be satisfied;

the planning of finances, including:

– planning of income and sources of income,
– planning of expenditure,
– planning of salaries.

XII

COST AND FINANCING

At a number of points in this study we have already referred to financial implications of many of the aspects of the reform of higher education. It is probably true that any innovation in higher education is bound to have certain financial repercussions. And it is highly desirable that the cost and financial implications of every innovation contemplated should be clearly specified.

It can now be asked whether this has been done in connection with the Yugoslav reform of higher education. Judging by the course of the reform so far, by the problems encountered and the results achieved, it is safe to say that not enough attention has been paid to the cost and financial aspects of the reform.

This chapter will be devoted to some more important problems of financing, without going into unnecessary details or drawing unwarranted conclusions.

The following are the most important sets of problems to be considered:

i) General problems of educational financing.

ii) Education cost structure.

iii) Investments.

iv) Further considerations of educational financing, including the financing of higher education.

General problems of educational financing

When the first graduates began to come out of the newly opened Faculties and institutions of higher education, it was felt that the expansion of higher education should be curbed and greater attention should be paid to the quality of education, while at the same time reviewing the regional problems of financing.

A public debate on the financing of institutions of higher education led to the following conclusions:

"Investments in higher education have so far been insufficient. The unfavourable cost structure in institutions of higher education is causing grave concern. These institutions therefore demand that their financing

should be put on a firm basis, in accordance with their programmes of activity and with the established educational and material standards. The financial resources should be provided by Republics, which should pay for the education of graduates ".*

The foregoing passage covers several important points which go to the core of the problem of financing higher education. They include:

- inadequate investments
- stability of sources
- financing by Republics
- financing on the basis of certain standards, covering full costs of education.

In discussions on educational investments, several sets of data are usually used to support the argument that investments are adequate or inadequate.

According to the data published by the Federal Secretariat for Education and Culture,** the share of the national income spent on education has been steadily decreasing ever since 1962:

Table 49. PERCENTAGE OF NATIONAL INCOME SPENT ON EDUCATION, 1961–1966

Year	Gross	Net
1961	4.3	3.5
1962	5.5	4.1
1963	5.2	3.8
1964	4.8	3.5
1965	4.6	3.3
1966	4.4	

The following amounts were spent on education (for basic activities and investments) between 1961 and 1966 (in million new dinars):

Table 50. TOTAL EDUCATIONAL EXPENDITURE 1961–1966

1961	.....	1,338.9	1964	.....	2,634.3
1962	.....	1,885.6	1965	.....	3,371.2
1963	.....	2,124.0	1966	.....	4,008.4

* "O otvorenim problemima daljnjeg razvoja visokog školstva – Rezime javne diskusije" (On Certain Open Problems in the Development of Higher Education – A Summary of Public Debate) published in the book *Aktuelna pitanja izgradnje sistema obrazovanja i vaspitanja* (Topical Questions in the Development of Educational System), Federal Assembly Publications, Series IV, 7–8, p. 210.

** Quoted by Dr. A. Rozmarić, "Povodom teza za nacrt zakona o financiranju obrazovanja u SRH" (Remarks on the Draft Bill on Educational Financing in Croatia), *Univerzitet danas*, 8, 1966, p. 23.

One might ask at this point whether such a comparatively low share of the national income spent on education is sufficient in view of the country's manpower needs. An attempt to answer the question further will be made below, while we shall now see how much of the money provided for the financing of basic educational activities was spent on higher education:

Table 51. EXPENDITURE ON HIGHER EDUCATION AS PERCENTAGE OF TOTAL EDUCATIONAL EXPENDITURE, 1961–66*

Year	Million new dinars	Percentage of total educational expenditure
1961	15.2	14.9
1962	24.9	16.7
1963	28.7	16.7
1964	37.6	17.3
1965	47.8	15.8
1966	55.2	15.3

* Investment excluded.

In view of the fact that the share of total educational expenditure spent on higher education is about 20% in medium developed countries, the percentages for Yugoslavia are seen to be rather low even despite the expansion of institutions of higher education.

Another indication of the treatment enjoyed by higher education is the amount of money given for each student. The intention is not to question the amount itself — though it could be questioned or at least modified — but rather to illustrate a trend:

Table 52. COST PER STUDENT
(In new dinars) 1962–1966

1962	.....	2,407	1965	.....	4,471
1963	.....	2,705	1966	.....	4,533
1964	.....	3,529			

The main demand voiced until recently was for:

- the redistribution of the national income,
- the allotment of a larger share of the national income for general consumption purposes.

Thus we come to the end of a period which it is rather difficult to delimit because many of its features are still felt even though the elements of the new are already strongly present. It can be roughly said to have lasted until 1964 or 1966.

It may be interesting to describe the manner of financing of higher education during the past period.

Until 1961, higher education as a whole had been financed from the budget, while from that year onwards it has been financed through a special Educational Fund.

Financing from the budget meant that all money came from that source and that the amounts were determined by central state organs. Teachers' salaries were determined by the Law on Civil Service.

When institutions of higher education became autonomous, the situation remained largely unchanged, since the bulk of the necessary resources still came from the budget. Even the setting up of the special Educational Fund (or of the Higher Education Fund, as in the case of Zagreb) produced no significant change in educational financing: the Fund depended on the budget for most of its resources because the income from other sources was quite limited.

Thus the shift from the pure budgetary system to Educational Funds could not provide the elements of long-term financial planning.

Educational Funds provided only the resources for the basic activity of higher education institutions, i.e. for teaching. All other activities, such as research, acquisition of new equipment, modernization, part-time and graduate study were excluded from this scheme of financing.

However, the new scheme enabled institutions of higher education to earn money for themselves and use it quite freely.

But despite this possibility, the main source of educational financing was tax revenue (from corporate and private taxation), while the direct contribution from industrial and other organisations was fairly small:*

Table 53. PROPORTION OF BUDGET AND OTHER FINANCING, 1963–1965

Thousand million old dinars

Year	From the budget	From industrial and other organisations
1963	71.7	2.4
1964	93.4	5.6
1965	118.5	8.3

It was felt that the contribution of industry and the economy was inadequate and that it should do more for the financing of education, instead of contributing less and less, proportionately, from one year to the next:

1963 ..... 46.5%
1964 ..... 31.1%
1965 ..... 29.7%

We shall return to this problem below.

* Data given by Dr. M. Matejić, "Neka pitanja u vezi utvrdivanja izvora sredstava za financiranje obrazovanja" (Some Questions Relating to the Sources of Educational Financing), *Univerzitet danas*, 8, 1966, p. 13.

Educational cost structure

One of the general indicators of the standard of educational activity is the share of material expenditure in the total expenditure of an educational institution. The more modern and better organised the teaching, the higher the share.

The figures given below indicate that the structure is very unfavourable in the case of Yugoslav higher education, where the disproportion between material and personnel expenditure is great, i.e. where very little is spent on the modernization of teaching equipment and general conditions of work.

Table 54. STRUCTURE OF TOTAL EDUCATIONAL EXPENDITURE, 1955–1964

Percentages

	1955	1957	1958	1959	1960	1962	1963	1964
Personnel	54.0	56.0	66.8	65.8	65.7	70.6	66.9	67.9
Material*	46.0	44.0	33.2	34.2	34.3	29.4	33.1	32.1

* Including depreciation.

The average structure for the period 1961–64 was the following:

- material expenditure (including depreciation) 30.7%
- personnel expenditure 69.3%

The share of material expenditure in the total expenditure for higher education's basic activity was as follows:

1962 ..... 30.9%
1963 ..... 29.3%
1964 ..... 29.0%
1965 ..... 24.2%
1966 ..... 23.8%

No further comment is needed on this point because the figures speak for themselves. They, together with results of the reform described in other parts of this study, point to a certain deterioration of educational standards.

Something should now be said about the criteria applied in allocating funds for personnel and material expenditure.

Salaries are determined by the criteria worked out by each institution and specified in its Pay Scale, which is an expression of its autonomy in matters of internal distribution of resources.

Resources for material expenditure are allocated in one of two ways: either according to the carefully prepared standards of material expenditure (such as those worked out by Zagreb University for its institutions) or according to the established budgetary system whereby resources for material needs for each given year are based on the amount spent on such needs during the previous year augmented by a certain percentage.

The functioning of the system can be illustrated by the procedure employed at Zagreb University, although the actual manner of computation need not be the same at all universities.

At Zagreb University, standards of material expenditure and pay ranges have been set up for all institutions. The breakdown is such that about 33% of the total sum available is spent on material needs, about 61% on salaries, and about 6% on depreciation.

If this breakdown is realistic for the situation as it is now, then it could be said that the total sum of 16,000 million old dinars might be sufficient for "normal teaching activity" in 1967.

However, the amount received from the Educational Fund was 11,000 million old dinars. The only thing that could be done then was to try to effect savings on certain material items. The following steps were then taken:

The original sum envisaged for salaries was 10,000 million old dinars. But since less money was obtained, it was decided to cut the original sum by 20%; this meant, in effect, that a fuil professor's monthly salary was not 250,000 but only 200,000 old dinars.

It was originally expected that about 5,000 million would be available for material expenditure, but it was then found that only 40% of that sum was actually available.

When Faculties and Colleges received their annual amounts thus calculated (for both personnel and material expenditure), they often decided to improve their salaries a little at the expense of further cuts in material expenditure funds.

The reason for this was, of course, that teaching staff salaries were extremely low. Thus, the average monthly salaries in institutions of higher education were the following:

1965 ..... 76,400 old dinars
1966 ..... 96,400 old dinars
1st Sept. 1967 ..... 111,200 old dinars.

The average figures may not tell the whole story and we shall therefore add a few more data:

The average 1966 salary of a full professor was 160,000 old dinars a month (with the range between 143,000 and 182,000). This figure should be set in the context of the 1964 statistics indicating that the increase of administrative staff salaries in relation to the pre-war period was marked by the index 4,800, while the index for a full professor's salary was only 2,200.* This means that, taking administrative staff salary increases as the basis of comparison, the full professor's salary should have been over 40% higher than it actually was in 1964.

Another comparison was made with the salaries of Assistant Secretaries of State or Constitutional Court Judges and similar posts, regarded as equivalent to the post of a full professor. The average 1964 salaries for such posts were about 240,000 old dinars a month, which is again more than 40% above the average university professor's salary of 160,000 old dinars.

The problem of the actual amount was not the only one, however. Equally important was the problem of ranges between highest and lowest salaries.

* Cf. Dr. B. Pilić, "Problemi postavljanja sistema financiranja visokog školstva" (The Problems of Higher Education Financing), *Universitet danas*, 8, 1966, p. 5.

Even if one discards as excessive the pre-war range of 12.7 times between a full professor and an assistant lecturer, the question still remains whether a range which fell below 2 in some years is acceptable. In 1966 the range at Zagreb University was 1.84, and in 1967 it was 1.9.

The previously mentioned standards of expenditure envisaged a ratio of 1: 5.6 between an unskilled worker's salary (44,000 old dinars) and a full professor's (250,000 old dinars). However, when the annual quota was cut by 20%, the range of 1: 5 was agreed upon, with the salaries ranging between 40,000 and 200,000 old dinars a month in absolute terms. Other salaries were fitted into this range, and thus we get a monthly salary of 104,000 old dinars for an assistant lecturer, which means a range of 1: 1.9.

This shows that the ranges were seriously affected by the fact that only 80% of the required sum was obtained. It is also noteworthy that the average monthly salary in mid-1966 (taking all institutions included in Zagreb University together) was only 83,200 old dinars. In view of the high pattern of skills of the people employed in these institutions, this was certainly inadequate.

Since the very low incomes of certain categories of people were intolerable, the institutions laid down policies of internal distribution according to which the lowest salaries (those of the non-teaching staff and of assistant lecturers) were slightly increased at the expense of the highest salaries. This resulted in the unfavourable salary ranges discussed above. Moreover, part of the funds intended for material expenditure was switched to salaries, thus producing the adverse cost structure.

Investments

Immediately following the War, the situation with respect to school space in higher education was very serious. It has already been noted, in the first part of this study, that the reform of higher education promised to approach the problem of investment in a systematic and determined way.

The following table shows the classroom situation in 1957–58:*

Table 55. CLASSROOM SITUATION, 1957–58

Type of faculty	Classroom area (in sq.m.)		Number of places	
	Total	Per full-time student	Total	Per full-time student
a	1	2	3	4
Total	55,924	0.9	38,948	0.6
Agricultural	11,655	1.9	8,154	1.3
Engineering	16,586	1.0	9,286	0.6
Medical	11,746	1.3	7,095	0.8
Social science	15,937	0.5	14,413	0.5

* Jovan Jovanovič, "Ucesce Federacije u izgradnji universiteta SFRJ" (The participation of the Federal Government in the Building of Yugoslav Universities), *Univerzitet danas*, 2, 1965, p. 22.

According to the 1958 University Building Programme in Yugoslavia, already mentioned, the Federal Government announced the terms and condition of its participation in the building and equipping of certain Faculties and university institutes. In 1959, the Federal Executive Council prepared a list of Agricultural, Forestry, Veterinary and Engineering Faculties, and Faculty Institutes of Physics and Chemistry, in whose construction it would participate with 50% of the required resources. It would take us too far to describe the changes that followed different Federal Government decisions until 1964. At the end of 1961, the Federal Assembly made a decision on the resources to be used to assist the construction and equipping of certain university projects between 1961 and 1965. The amount of 15,000 million dinars was to be provided for the partial financing of the building of Faculties of Agriculture, Forestry, Veterinary science, Engineering, Arts and Letters, and Natural Sciences and Mathematics, as well as of the University Institute of Physics and Chemistry. The resources for each successive year were to be provided in the Federal budget and distributed amoung the Republics by the Federal Government according to the criteria worked out by it.

However, the actual provision of resources was as follows:

1961 ..... 3,000 million dinars
1962 ..... 2,500 million dinars
1963 ..... 1,600 million dinars
1964 ..... 1,600 million dinars

The reduction caused serious difficulties and made it impossible to complete the construction projects because no additional funds could be procured from other sources. The situation was particularly difficult in newly established institutions. The following figures will make the total investments picture more complete.*

Table 56. THE SHARE OF EDUCATIONAL INVESTMENT IN TOTAL INVESTMENTS, 1961–1964

Year	Investments* Total	of which: Productive	Non-productive: total	Non-productive: of which: educational	Percentage share of education: In total investments	Percentage share of education: In non-productive investments
1961	1,497.6	1,201.1	296.5	32.2	2.15	10.86
1962	1,230.6	858.4	372.0	42.6	3.46	11.45
1963	1,463.6	995.4	468.2	44.4	3.03	9.48
1964	1,882.8	1,304.4	578.4	51.3	2.72	8.87
1965	...	...	...	47.6	...	...
1966	...	...	...	46.8	...	...

* Thousand million old dinars.

* According to the data supplied by the Federal Secretariat for Education and Culture.

Investments in higher education were as follows:

1957 ..... 2,161 thousand million old dinars
1958 ..... 2,586 thousand million old dinars
1959 ..... 4,398 thousand million old dinars
1960 ..... 4,748 thousand million old dinars
1963 ..... 10,730 thousand million old dinars
1964 ..... 11,614 thousand million old dinars

The share of higher education investments in total educational investments was 24.1% in 1963 and 22.6% in 1964. With the introduction of the economic reform measures, the general financial situation became tougher and resources for investments of all kinds, including those in higher education, more difficult to obtain.

This discussion can best be concluded by quoting from a Statement made by the Federal Secretariat for Education and Culture in December 1967:

" Although educational investment data for the full January-September period have not yet been received, the data for the first half of 1967, together with the interim reports from the Republics, point to a continued fall in both absolute and relative terms. As already noted on several occasions, the fall in educational investments is characteristic of the last few years and is causing a growing gap between the actual achievements and the provisions of the Medium-Term Development Plan. "

To this it can only be added that the situation in higher education is even more serious than in education generally.

Further considerations of educational financing

The solution of the problem of educational financing, including the financing of higher education, has been a task of the highest priority ever since 1964. The first step is to find a fair share of the national income that should be spent on education.

The following are the main principles to be applied to this task:

i) The material and financial problems of education should find their solution in the closest possible contact with the country's material production. These solutions should be directly related to the development of this production.

ii) Decisions on the use of resources produced by society to finance the working people's needs, including education, should not be left to any bodies other than the working organisations of socio-political communities in which these resources have been produced. This implies the establishment of direct links between educational financing and producers in society.

iii) All financing should be based on clearly presented programmes of activity, not on the existence of institutions as such.

iv) The question is not only how much money should be provided (what part of the national income) but also how qualitatively new relations can be established between those needing qualified graduates and those capable of producing them.

It is impossible to instruct and implement a new system of educational financing, based on the forces of production, over a short period of time.

That is why we are still in a period of transition during which the old system should disappear and the new one take its place with as few adverse social and economic side-effects as possible.

The 1965 economic reform only brought to the surface problems which already existed but were either concealed or deliberately glossed over. Permanent solutions could not be found in the old system and new ways had to be sought within the framework of the reform.

What was true of the economy generally, was also true of higher education. The long standing problems became more acute, and those that were usually put off as less important in the old set-up proved to be of vital significance once the new system began to operate.

The explosive expansion of higher education in the years before the introduction of the economic reform, seen in the unco-ordinated opening of new Faculties and particularly of Two-year Post-secondary Schools, resulted in numerous instances of unnecessary duplication and, consequently, in an uneconomic use of the resources provided for investments and current expenditure.

Another trend noted at the time of the expansion of higher education was the establishment of many new departments, sections and branches of study. The phenomenon has already been discussed in this study, so we shall content ourselves at this point with merely noting the lack of co-ordination which led to frequent parallelism and duplication of effort.

Both developments, i.e. the opening of new institutions at different levels and the establishment of specialized branches of study, required more teaching and auxiliary teaching staff and more laboratories, classrooms, etc. In other words, both made education more expensive. It can now legitimately be asked, therefore, whether more rational and economical solutions should not be sought.

The probable answer is that improved co-ordination could result in the greatest savings, by eliminating parallel branches of study, departments, institutions, and levels of study (such as the first level of study at Faculties in the fields in which post-secondary schools exist).

Since the development so far has not been based on adequate analyses and since the long-range perspective has been lacking, it is imperative that no new *ad hoc* measures should be taken dictated by nothing else but the availability (or rather non-availability) of resources. The future course of higher education should be the product of long-range educational programmes and not of immediate financial pressures.

All the solutions proposed so far, both those that are still in the discussion stage and those that are already being implemented, are based on the understanding that the initiatives will come from the institutions of higher learning themselves. It is important to remember that hastily introduced changes can only result in mistakes of the kind that were made during the earlier stages of the educational reform.

Some of the aspects of educational financing that have already been reviewed are now the subject of intensive debates in Yugoslavia.

The earlier system of educational financing, based exclusively on the budget, could not guarantee the stability of resources nor could it provide additional resources for the growing needs. Apart from failing to provide

adequately for educational needs, the old system did nothing to enable, let alone encourage, educational institutions to earn some money by their own activity.

The new Law on Educational Financing, however, introduces a novel attitude to educational institutions and their activities, more in keeping with the changed economic and social situation in the country.

The first principle is that education is an important social activity which can fulfil its complex and responsible tasks only if it receives adequate treatment from the community. This, in purely practical terms, presupposes a direct link between the education system and the process of production in society, meaning that education should receive a certain share of the social product.

The second principle is that self-government relations are plainly impossible in any field of activity, including education, without an adequate material basis.

The new Law on Educational Financing separates education from the budget, gives it autonomy, and provides it with stable sources of finance.

The stability is seen in the fact that personal incomes in the economy, to which the financing of education is now related, represent an important component of the national income and show a steady upward trend.

However, the stability and autonomy, demanded ever since 1964, do not automatically ensure the " sufficiency of resources ".

And this is the point at which misunderstandings arise. We have already quoted the views of those who feel that a steadily increasing share of the national income should be spent on education. The percentage would be determined centrally in the National Plan for each year and would ensure that more and more money is made available for purposes of education. The implementation of this principle at the present moment would mean, in the opinion of its advocates, a redistribution of the national income in favour of education.

On the other hand, there is a view that the stability and " sufficiency " of resources should depend directly on the performance of the economy as a whole. According to this scheme, the amount of money available for education would be allowed to fluctuate, depending on the strength of the material basis of the economy. Thus, the advocates of the first approach may be said to stress society's obligation to finance education; those taking the second line realize that the scope of education can be only as wide as society can afford to make it.

Both principles start from the requirements of the economic reform and the reform of higher education, demanding a fully rational approach to the financing of education as a whole and higher education in particular.

It may now be asked how it is possible to make education institutions autonomous in the sense of earning the money which they will spend as they think fit.

The important thing is to determine the " price of education ". This is a new element in educational financing which has produced numerous disagreements and controversies.

Article 13 of the Draft Bill on Educational Financing in Croatia stipulates that each educational institution shall independently determine

its price of education. This Article is accompanied by the following comment:

"Each school will fix the price of education so that it can cover its expenses. This means that the price of education, like any other kind of price, should be based on economic considerations. The economic price thus determined should also provide for the necessary investments. Of course, extensive consultations will be needed before the pedagogic criteria and objective measurements can be found in the field of education. Through the same process, the price structure will become better understood, which will make the evaluation of human labour in this sphere easier."

Two problems arise in this connection: first, how to fix the price of education; and secondly, whether this means that educational institutions, with their prices, will appear on the market like all other industrial and commercial organisations.

This first problem is not very difficult to solve and the price of education can be easily arrived at.*

As for the second problem, two alternative approaches seem to be possible. One is that we are dealing with the "market price" which, by definition, may be acceptable or unacceptable to the user. In the latter case, fewer and fewer users will "buy" the services of such an institution, preferring to go to those with more reasonable prices or which offer better value for the money. The institutions whose prices fail to remain competitive may be forced to close down.

This approach may sound rather radical but it is a logical consequence of the existence of an objective price of education. What purpose would such a price serve if the users continued to pay less, irrespective of the price? Or what would autonomy mean if institutions were not in a position to set their prices?

The other approach is based on the following reasoning: The price of education serves a useful purpose even if it is not used in practice, because it makes society aware of what it costs to educate a graduate at each particular level. However, there is one more question: what price can be regarded as real? Is it the price charged by the present uneconomic set-up of higher education, or is it the price that a reformed system would charge after the consequences of an irrational expansion in the past have been wiped out?

It is probably true to say that the new legislation has been designed to encourage the formation of such prices of education as will make the situation on the "educational market" more competitive. Let us now turn to the "users" of education.

The draft Educational Financing Bill envisages that the policies, conditions and resources for all education above elementary level will be established by people employed in working and other organisations in the economy and public services.

The education covered by the Bill includes secondary, post-secondary and higher education. Article 11 says: "Working people in industrial and

* The Zagreb University standards referred to above contain some elements of the price of education. The Belgrade University Council has also adopted the "Main Elements and Criteria for Determining the Price of Education at Institutions of Higher Learning".

other organisations shall decide freely how much they wish to spend on education, in accordance with the educational policy they adopt. They shall also be free to decide how this money should be spent." In the Preamble to the Bill, the following statement is made: "Teachers will direct all their activities towards the self-governing society and its increasingly complex educational needs and requirements. Free from any government intervention or tutelage, they will make their own contribution to social progress and will at the same time create better conditions for their educational work and earn an appropriate material and social status."

Of course, the implementation of such principles of educational financing will raise many problems. The present period is one of crucial importance and it is the moment:

- to analyse the economics of education;
- to analyse the organisation of education;
- to change the public attitude towards education;
- to create conditions which will make changes in attitudes possible.

At the end of this section we shall briefly review the situation that has arisen in connection with the implementation of the new principles of educational financing.

Educational Associations

In this connection something more should be said about *Educational Associations*, which have been mentioned at several places in this study. They appear as a necessary link between educational institutions and users of education. This is how the Law defines them:

"Educational Associations shall be established in order to promote the social function of education, to connect educational activities with other social activities, to enable the participation of those directly concerned in the administration and management of education, to implement the educational policies adopted, and to deal with other problems of common interest.

"Educational Associations shall be autonomous organisations and legal persons.

"Deemed to be an integral part of self-government in the sphere of education, Educational Associations shall operate as self-governing institutions, including all those interested in education.

"Educational Associations shall bring together all those who represent society's interest in education and shall encourage them to work together and to bear joint responsibility for the improvement of education.

"Educational Associations shall consist of citizens in Communes, working people in educational institutions, industrial and other organisations in the economy and public services, and representatives of youth organisations and other interested bodies.

"Individual educational institutions may join more than one Educational Association under conditions specified in the Associations' Statutes.

"The proposed Bill makes it possible for all those interested in education to work actively in Educational Associations and to produce the most satisfactory results through a confrontation of views and interests."

As for the position of institutions of higher education in this scheme of financing, it has been said that a great deal of care will be required in the actual implementation of the proposed principles. It has been objected, however, that the new legislation makes no provision for research, failing to recognize the double role of university institutions as teaching and research establishments. Another objection is that the new system of financing does not solve the problem of investment in education.

Other objections have also been raised, first, the stability of the sources of finance has, admittedly, been established but it does not in any way guarantee the "sufficiency of resources".

Second, doubts have been expressed about the willingness of industrial and other organisations — for either objective or subjective reasons — to contribute financially for education.

Third, institutions of higher education have expressed fears that direct contacts with the users (working organisations) may not be feasible because of the specific nature of their activity and because of the widely scattered places from which their students come. That is why the importance of the gradual approach has been emphasized as well as the need for the Republic (through the Republic Educational Association) to intervene, at least during the transition period.

We should now return to an important question frequently mentioned in this study, namely, that of the rational organisation of higher education in general and of each individual institution. When we speak of the "insufficiency of resources", we always have in mind the existing organisation of higher education. But this does not mean that this organisation should be allowed to remain unchanged: we have already stressed the need for a scientific analysis of the economics of education and an analysis of the organisation of higher education.

We shall conclude this discussion with a brief summary of the problems that began to be felt during the short period of implementation of the new Law on Educational Financing (until November 1967).*

The stability of sources was achieved, but the resources obtained from them proved insufficient.

The new system of educational financing opened the process of development of self-government relations. However, there is still a degree of discrepancy between proclaimed principles and practical measures. Not infrequently, education is still treated as a form of common consumption instead of as a factor of development.

The social and economic functions of Educational Associations could not make themselves fully felt during this short time. Many people still view them as the former Educational Funds in another guise and approach them with the logic of the budget. The problems of resources and their distribution have loomed so large in the life of Educational Associations until now that no long-range educational policies could be pursued by these bodies. (It has even been questioned whether they should lay down any education policies — which is the task of Educational and Cultural Chambers in the representative organs of different socio-political communities —

* Cf. "Information on the Realization of Objectives and Principles of the New System of Educational Financing", published by the Federal Secretariat for Education and Culture, Belgrade, November 1967.

or whether they should confine themselves to the problems of financing on the basis of policies determined by legislative Chambers at different levels.)

During the initial stages of their operation, Educational Associations remained fairly closed bodies whose contacts with citizens and interested organisations were not always very strong. The following statement comes from the Information by the Federal Secretariat for Education and Culture: "Although the expansion of the network of educational institutions has been halted, the existing network of secondary schools and institutions of higher education is still such that its maintenance is extremely difficult in a number of regions. Extensive co-operation between different Educational Associations is needed to examine the economic and educational justification of the network and to prepare measures for its more rational organisation. Early experiences show, however, that this cannot be done by Educational Associations alone because of the opposition on the part of certain citizens and local authorities. A broader view is needed in seeking solutions for this problem."

This statement as it stands requires further clarification because it contains elements of misunderstanding and confusion.

Granting that the existing organisation of higher education is not rational, we still do not know the extent to which it is irrational since no objective analyses have been made. We therefore run the risk of falling into another trap and "correcting" the present situation by something which will be even less efficient from the organisational point of view.

Another question is that of the role of Educational Associations in connection with this problem. If citizens and their local authorities wish to have one or more institutions of higher education, then it is their own decision since they are entitled by law "to pursue their own policy of education in accordance with their needs and possibilities". Educational Associations have no other task but to provide the financial resources to implement these policies. If this were not the case, Educational Associations might turn into bureaucratic institutions usurping the sovereign rights of citizens (and their elected organs).

The relations between Educational Associations and educational institutions are not yet based on the principles of earned income and price of education. The criteria used in calculating the price of education are still only vaguely economic. That is why the relations are not determined by an evaluation of the institution's programme of activity (leaving aside the question of the criteria of evaluation and of the persons or bodies capable of evaluating such programmes) but rather by the amount of resources available to Educational Associations for distribution. In this situation, the contracts between Educational Associations and educational institutions are only a formality designed to "satisfy the law". One might legitimately ask whether this is not one aspect of society's evaluation of education.

To sum up, ever since the introduction of the measures of economic and social reform (1965) and the adoption of the new Law on Educational Financing, education as a whole, including higher education, has been evolving a new set of relations with society. The main idea is to integrate education, through the action of economic laws, into the social texture of the country. This has led to certain new problems produced by the fact that:

i) the system of financing is not yet fully developed;

ii) the position of educational institutions in the new system is not yet fully understood.

These are the two factors that make the integration of higher education into new social and economic conditions such a difficult process.

Further systematic efforts are needed to solve the present difficulties of educational financing and to implement the principles underlying the reform of higher education.

CONCLUSIONS

The aims of the reforms

The following were the major aims of the reforms (cf. also Part One, Chapter III above):

i) to improve higher education and to build up a flexible, inter-related system, capable of producing a regular and sufficient number of highly qualified personnel, of varied skills, to match the needs of the country's rapidly growing economy and increasingly complex social life;

ii) to expand the network of institutions of higher education and to enable other bodies in addition to the Parliaments of the Federated Republics (such as local authorities, enterprises and other institutions) to take the initiative in founding such institutions;

iii) to enable institutions of higher education to be established elsewhere than in the capitals of the Federated Republics;

iv) to integrate higher education into an organic system, embracing not only Faculties and Colleges, but also Two-year Post-secondary Schools (whose certificate-holders could go on to higher levels of study at Faculties and Colleges);

v) to introduce a three-tier system of education wherever feasible, to provide qualified personnel for various requirements;

vi) to differentiate teaching horizontally and to qualify students for the needs of different occupations and jobs;

vii) to modernize teaching methods and equipment and to make higher education more efficient;

viii) to develop the system of part-time study;

ix) to democratize enrolment, enabling more citizens to obtain the highest qualifications;

x) to shorten the effective length of studies.

The demand for reform came from social and political institutions and enterprises and from the Faculties themselves. The various enactment referred to in the body of the text were introduced in response to these demands. There was no opposition from any quarter to the principle of reform, but some of the detailed applications were not acceptable to the institutions of higher education which regarded them as inadequate, or even detrimental, to the higher education system. This applies, in particular,

to the introduction of the three-level system, which, in spite of the recommendations of the Federal bodies, was not introduced by most Faculties, and has even tended to be gradually dropped by those which did introduce it.

The two periods of reform

Two periods of reform can be distinguished, the first from 1957 to 1963 and the second from 1963 to 1967. During the first period, the number of institutions and enrolments increased in spectacular fashion, encouraged by legislation and the provisions of the National Economic Plan.

The second period is characterized by an effort to translate quantity into quality. But it is equally characterized by the changes in social and economic relations in the country as a whole, which have had their repercussions on higher education. These "external factors" have thrust higher education into a state which some people describe as one of "disorientation", while others speak of a deterioration of educational standards. Institutions of higher education are still uncertain in their attitude towards the economic measures which now operate in Yugoslavia, while the country, on the other hand, provides only as much as it can afford at the moment for the financing of higher education.

The present dilemma

The present dilemma can be stated in the following terms:

i) The country, now in the grips of the economic reform, can afford only a certain amount of resources for higher education.

ii) Higher education, as it is today, requires an amount of resources for its normal functioning, in excess of that supplied.

iii) The country recognizes that its higher education is over-developed and its organisation irrational. Consequently, the available resources are spent uneconomically.

iv) The problem of over-development could be solved by closing some of the institutions of higher education. But the question is which of them should be closed and how this could be done without violating the self-governing rights of the people working in them.

The main difficulty lies in the fact that we lack realistic programmes of social and economic development, that we do not know what the country's real needs are, and that we miss the elements required for a policy of education and educational financing.

It is not easy to say what over-development means and what it is that is irrational. Without appropriate analyses it is impossible to know what should be re-organised and how.

The main emphasis is now laid on the "economics of education", stemming from direct links between educational institutions and different parts of society (such as industrial and other organisations). The lines of communication between the economy and educational institutions have been opened and through them the type of education will be determined, as well as its quality and the resources needed for it. The process has only

just begun and it will probably take some ten years before the proclaimed principles can be fully implemented.

Summing up

Finally, it may be interesting to see which of the fundamental principles of the reform have been implemented and which remain for the coming period.

— The principle of equality of opportunity has been accepted by institutions of higher education, so that all citizens have been given an opportunity to study. The requirement was of high topical interest at an earlier stage but is much less so now. Enrolment statistics show that fewer and fewer people make use of their "right to higher education".

Another principle of the reform, that of part-time study, has resulted in impressive quantitative results. However, a downward trend has set in recently in this field too. Institutions of higher education have accepted part-time study, but their material and personnel difficulties have prevented them from achieving important results in terms of the quality of part-time study. First attempts have been made to set up "study-while-you-work" schemes but it is difficult to assess the results yet.

— The reform also called for changes in the content and structure of study. The content has indeed been changed and the "unnecessary" historical components pruned out of the curricula. As for the structural changes, the introduction of first-level study at Faculties has proved impracticable and the scheme has been largely abandoned. The new Statutes envisage an interrelated three-tier structure, so that the student would always have to graduate from one level to enrol the next higher one. Some Faculties organise first-level study (4–5 semesters) alongside the comprehensive second-level study (8 or more semesters). Others organise courses in narrower fields of specialization alongside the normal second-level course.

The most serious mistakes in the expansion of higher education were made in the case of Two-year Post-secondary Schools. Their role and place have never been properly defined, and since they form part of the system of higher education, many criticisms directed against them have been addressed to higher education as a whole. It can be said that these schools have been somewhat mechanically fitted into the system of higher education. It will take considerable effort to work out programmes of activity for them which will enable them to operate as institutions preparing their graduates for certain jobs and not for further study at the second level (as they have mostly done so far). Only then shall we get a well-integrated system of higher education.

The third-level or post-graduate study has proved to be a valuable innovation which has been well received by both institutions and users. Further organisational moves should now be made to harmonize post-graduate courses at related Faculties or within individual universities.

— Specialization of higher education initiated by the reform has been effected within individual Faculties instead of between Faculties. Instead of the desired specialization of institutions of higher education, we now have specialized sectors within Faculties. This has led to an unnecessary and undesirable duplication of effort and irrational Faculty organisation.

— The reform also envisaged a new organisation of the University based on the principle of self-government. This principle has been implemented rather slowly, largely because of subjective internal reasons and because the system of financing on the basis of earned income and its free distribution has been slow in taking shape.

— Misunderstandings caused by the fact that teaching was emphasized as the main activity resulted in a deterioration of research work in institutions of higher education. It was only then that the unity of teaching and research, always stressed by higher education institutions, became recognized.

— Legislative and statutory provisions enable students to take an active part in the running of institutions of higher education. But their actual participation depends to a large extent on their organising ability. Their material position is still unsatisfactory because the old system of scholarships has been abandoned, while the new system of loans has not yet begun to operate at full capacity.

To sum up, it may be concluded that the main aims of the reform of higher education have been achieved. But it should be stressed once again that the reform has not yet ended. Mistakes may have been made (and corrected) in the process of the reform, but the fact remains that the most important tasks have been successfully achieved. They include the following:

- Measures for the improvement of higher education,
- Integration of higher education into new social and economic developments,
- Democratization of higher education.

The problems that still remain will have to be further analysed until solutions are found which will assure complete unity between the development of society. Just as society progresses, so should its higher education. The present moment is crucial for the future shape of Yugoslav higher education.

REFERENCES

Dr. R. Ćurić (ed.), *Osnovni problemi fakultetske nastave* (Main Problems of Faculty Teaching), Novi Sad, 1966.

Herta Haas, "Planiranje kadrova za privredu" (Manpower Planning for the Economy), *Naše teme*, 4, 1967.

Dr. Alojz Rozmarić and Antun Šokman, *Financijsko stanje fakulteta i visokih škola u sastavu Sveučilista u Zagrebu u godini 1966* (The Financial Position of Faculties and Colleges of Zagreb University in 1966), Zagreb, 1966.

Dr. Alojz Rozmarić, *Ekonomski kriteriji za financiranje visokog školstva* (Economic Criteria for the Financing of Higher Education), doctoral dissertation, Zagreb, 1963.

Dr. Stevan K. Vračar, "Neizbježne promene na Univerzitetu" (Unavoidable Changes in the University), Glegišta, 3, 1967.

Aktuelna pitanja izgradnje sistema obrazovanja i vaspitanja (Topical Questions of Development of the Educational System), published by the Federal Assembly, Belgrade, 1967 (Vol. IV, Nos. 7–8).

Dr. M. Filipović, *The Reform of Higher Education*, Belgrade (in English).

Društvena potrošnja kao dio ukupne potrošnje (Social Consumption as Part of Total Consumption, Institute of Economics, Zagreb, 1964.

Samoupravljanje, dohodak i organizacione osnove universiteta (Self-government, Earned Income, and University Organisation), University of Sarajevo, 1967.

.....

Publications of the Yugoslav Institute for Educational Research, Section for Higher Education:

- *Aktuelna pitanja visokog školstva* — periodical.
- *Neki problemi razvoja i reforme visokog školstva u svetu* (Some Problems of Development and Reform of Higher Education in the World), 1963.
- *Stanje i neki problemi viših škola* (Some Problems of Two-year Post-Secondary Schools), 1963.
- *Neka pitanja studija na I stepenu* (Some Questions of First-level Study), 1963.
- *Usmeravanje, oblici i trajanje nastave na univerzitetima u FNRJ* (Forms and Duration of University Study in Yugoslavia), 1962–63.
- *Organizacija nastave za vanredne studente* (Organisation of Part-time study), 1963.

.....

Publications of the Federal Secretariat for Education and Culture:

- *Reforma visokog školstva* (The Reform of Higher Education), 1962.
- *Aktuelni problemi sprovodjenja reforme visokog školstva* (Topical Problems in the Implementation of Higher Education Reform), 1963.
- *Financiranje školstva u razdoblju od 1961 do 1964, ocjena za 1965* (Educational Financing between 1961 and 1964 and an Assessment for 1965), 1965.
- *Stanje i razvoj školstva od 1956–57 do 1964–65* (The Development of Education between 1956–57 and 1964–65), 1965.

.....

Publications of the Federal Council for Education and Culture:
- Information on the Present Situation and Problems in the Sphere of Education, July 1967.
- Information on the Present Situation and Problems in the Sphere of Education, December 1967.

.....

Documents issued by the Federal and Republic Planning Bureaux:
- The Yugoslav National Economic Plan for 1964.
- The Yugoslav National Economic Plan for 1965.
- Guidelines for the Preparation of the Economic Plan until 1970.
- The Yugoslav National Development Plan, 1966–1970.
- The Development of Education between 1964 and 1970, Zagreb 1964.
- Manpower Situation and Future Prospects as Elements for a Policy of Education, Zagreb, 1964.
- The Financing Programme of University Construction in Bosnia and Herzegovina, 1961–65, Sarajevo, 1961.

.....

Congress Reports of the National Students' Union Central Committee. Some topical questions of higher education – papers prepared for the Fourth Congress of the National Students' Union, Belgrade, 1967.

Univerzitet danas – periodical. (See references in the text).

.....

Social and Economic Aspects of Education – Symposium organised by Zagreb University and the Institute of Social Research, Zagreb, 1967. In addition to the papers quoted in the text of this study, the following have also been used:

Dr. Zvonimir Baletić, Higher Education and Economic Development.

Ivo Baković, Higher Education and the Economy.

Rudi Crnković, Some Questions of Organisation of Part-time Study.

Dr. Hasan Hadžiomerović, The Teaching and Research Function as a Criterion for the Financing of Institutions of Higher Learning.

Dr. Ivan Klauzer, The University's Contribution to the Training of Highly Skilled Personnel for the Economy and Society.

Slavko Koričančić, Some Methods of Programming the Development of Higher Education.

Dr. Rudi Supek, University Educational Policies, Students' Social Origin, and the Success in Study.

Dr. Branislav Soškić, The Economic Price of Education.

.....

Annual reports of different Universities.

The Zagreb University Bulletin.

.....

Statistical Yearbooks, 1957–1966.

Statistical Bulletins – Higher Education.

.....

Legislation and similar texts.

For all tables where no source is quoted, the data are taken from the Bulletin for Higher Education of the Federal Statistical Bureau or the Annual Statistical Report of the Federal Bureau for Planning and the Federal Secretariat for Education and Culture. In some cases, the official statistics make no distinction between full-time and part-time students and the numbers cannot be separated.

Annex I

STATISTICAL TABLES

Table A.1. TREND OF HIGHER EDUCATION, 1957–1967

	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Institutions-total	110	122	143	204	244	260	260	263	266	267
Total enrolments	82,882	96,890	104,786	140,574	158,010	160,092	160,595	170,499	184,923	195,454
Full-time	70,954	78,911	83,993	94,760	103,261	106,439	106,626	106,959	121,824	132,679
Part-time	12,028	17,979	20,793	45,814	54,749	53,653	53,969	63,540	63,099	62,775
Teachers	3,735	3,931	4,160	5,123	6,677	7,736	8,308	8,979	9,133	9,246
Auxiliary teaching staff	3,489	3,985	4,334	5,232	5,801	6,054	6,694	6,770	6,627	6,469
Students/teacher	22	25	25	27	24	21	19	19	20	21
Students/auxiliary staff member	24	24	24	27	27	26	24	25	27	30
Faculties-total	54	55	59	78	88	94	92	93	96	97
Total enrolments	69,087	78,904	82,927	104,875	112,005	106,225	99,056	98,631	107,329	111,232
Full-time	60,465	66,905	69,489	76,462	81,321	80,764	76,292	75,653	84,891	90,675
Part-time	8,622	11,999	13,438	28,413	30,684	25,461	22,764	22,978	22,438	20,557
Teachers	2,338	2,276	2,529	2,886	3,666	4,312	4,725	5,036	5,077	5,161
Auxiliary teaching staff	3,213	3,585	3,862	4,665	5,052	5,150	5,460	5,553	5,462	5,367
Students/teacher	29	35	33	36	30	25	21	20	21	22
Students/auxiliary staff member	21	22	21	22	22	21	18	18	19	21
Colleges-total	1	2	7	10	14	16	17	17	16	16
Total enrolments	303	464	1,161	2,088	3,461	4,268	6,177	6,815	6,930	6,848
Full-time	291	454	1,079	1,710	2,456	2,546	3,585	3,552	3,460	4,014
Part-time	12	10	82	378	1,005	1,722	2,592	3,263	3,470	2,834
Teachers	15	17	81	156	273	323	441	488	515	474
Auxiliary teaching staff	32	60	72	114	159	260	284	346	322	295
Students/teacher	20	27	14	13	13	13	14	14	13	14
Students/auxiliary staff member	10	8	10	18	22	16	22	20	21	23
Two-year post-sec. schools-total	44	54	66	106	131	139	137	139	140	140
Total enrolments	12,098	16,145	19,286	32,193	40,898	47,782	53,381	63,073	68,650	75,344
Full-time	8,764	10,199	12,032	15,179	17,872	21,374	24,808	25,849	31,563	36,116
Part-time	3,334	5,946	7,254	17,014	23,026	26,408	28,573	37,228	37,087	39,228
Teachers	1,094	1,327	1,289	1,777	2,421	2,766	2,778	3,065	3,140	3,209
Auxiliary teaching staff	176	279	297	365	495	532	805	757	744	709
Students/teacher	11	12	15	18	17	17	19	21	22	23
Students/auxiliary staff member	69	58	65	88	83	90	66	83	91	106

Table A.2. TEACHING STAFF, 1957–1967

	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Institutions-total	110	122	143	204	244	260	260	263	266	267
Teachers-total	3,735	3,931	4,160	5,123	6,677	7,736	8,308	8,979	9,133	9,246
Full-time	2,264	2,352	2,603	3,101	3,987	4,547	4,828	5,212	5,467	5,701
Auxiliary teaching staff-total	3,489	3,985	4,334	5,232	5,801	6,054	6,694	6,770	6,627	6,469
Full-time	2,482	2,721	3,002	3,391	3,778	4,060	4,358	4,454	4,627	4,646
Faculties	54	55	59	77	88	94	92	93	96	97
Teachers-total	2,338	2,276	2,529	2,886	3,666	4,312	4,725	5,036	5,077	5,161
Full-time	1,292	1,627	1,790	2,091	2,620	2,981	3,196	3,385	3,552	3,731
Auxiliary teaching staff-total	3,213	3,585	3,862	4,665	5,052	5,150	5,460	5,553	5,462	5,367
Full-time	2,391	2,611	2,866	3,219	3,507	3,753	3,887	3,953	4,092	4,121
Colleges	1	2	7	10	14	16	17	17	16	16
Teachers-total	15	17	81	156	273	323	441	488	515	474
Full-time	9	8	30	74	124	153	207	230	263	259
Auxiliary teaching staff-total	32	60	72	114	159	260	284	346	322	295
Full-time	24	28	31	55	86	92	130	158	174	149
Two-year post-sec. schools	44	54	66	106	131	139	137	139	140	140
Teachers-total	1,094	1,327	1,289	1,777	2,421	2,766	2,778	3,065	3,140	3,209
Full-time	467	526	585	734	1,038	1,181	1,187	1,343	1,388	1,443
Auxiliary teaching staff-total	176	279	297	264	495	532	805	757	744	709
Full-time	19	34	49	61	127	145	257	273	290	302

Table A.3. FIRST-YEAR ENROLMENTS, 1957–1967

	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Institutions-total	110	122	143	204	244	260	260	263	266	267
Enrolments-total	82,882	96,890	104,786	140,574	158,010	160,092	160,595	170,499	184,923	195,454
First-year enrolments	36,689	43,905	48,396	76,455	84,524	82,590	85,203	95,774	104,120	106,507
Full-time first-year	28,579	30,226	32,269	39,791	45,311	48,245	48,818	51,006	63,024	67,616
Part-time first-year	8,110	13,679	16,127	36,664	39,213	34,345	36,385	44,738	41,098	38,881
Faculties	54	55	59	77	88	94	92	93	96	97
Enrolments-total	69,087	78,904	82,927	104,875	112,005	106,225	99,056	98,631	107,329	111,232
First-year enrolments	28,706	32,060	34,580	51,440	52,928	46,610	42,433	44,841	50,086	49,161
Full-time first-year	23,236	23,517	24,443	29,150	32,902	32,735	30,203	31,951	38,686	40,032
Part-time first-year	5,470	9,534	10,137	22,290	20,026	13,875	12,230	12,890	11,400	9,129
Colleges	1	2	7	10	14	16	17	17	16	16
Enrolments-total	303	464	1,161	2,088	3,461	4,268	6,177	6,815	6,930	6,848
First-year enrolments	89	264	634	1,110	1,746	1,865	3,231	3,448	3,557	3,742
Full-time first-year	87	262	553	768	949	820	1,484	1,554	1,561	2,157
Part-time first-year	2	2	81	342	797	1,045	1,747	1,894	1,996	1,585
Two-year post-secondary schools	44	54	66	106	131	139	137	139	140	140
Enrolments-total	12,098	16,145	19,286	32,193	40,898	47,782	53,381	63,073	68,650	75,344
First-year enrolments	7,510	11,238	12,782	23,542	29,248	33,528	38,944	46,850	49,807	53,001
Full-time first-year	4,882	6,106	6,877	9,515	10,887	14,139	16,531	16,935	22,167	24,891
Part-time first-year	2,628	5,132	5,905	14,027	18,361	19,389	22,413	29,915	27,640	28,110

Table A.4. GRADUATES, 1957–1967

	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
Percentage of total enrolments	11.7	12.3	12.6	14.6	12.3	14.4	16.1	17.0	16.3	15.5
Faculties	10.5	10.0	10.5	12.0	10.7	10.7	12.0	12.3	11.1	10.4
Colleges	17.4	14.5	10.0	3.7	18.0	19.0	14.5	12.6	11.4	12.6
Two-year Post-sec. schools	19.0	25.5	22.7	24.2	17.1	16.6	15.5	15.6	14.6	13.5
Total	8,392	10,206	12,220	14,928	17,363	22,907	25,799	27,312	27,952	28,678
Full-time	5,540	9,217	11,132	13,316	15,094	19,687	21,006	21,095	21,341	...
Part-time	2,852	989	1,088	1,612	2,269	3,230	4,793	5,217	6,611	...
Faculties-total	6,394	6,907	8,306	9,974	11,216	12,023	12,794	12,223	11,958	11,627
Full-time	5,419	6,328	7,614	9,136	10,267	10,977	11,627	10,704	10,283	...
Part-time	921	579	692	838	949	1,046	1,167	1,519	1,675	...
Colleges-total	51	44	47	43	375	660	619	779	782	857
Full-time	45	37	42	39	256	512	509	618	575	...
Part-time	6	7	5	4	119	148	110	161	207	...
Two-year post-sec. schools-total	1,804	3,090	3,662	4,680	5,535	6,909	7,413	8,433	9,278	10,518
Full-time	1,455	2,688	3,274	3,913	4,335	5,110	4,873	5,269	5,903	...
Part-time	499	412	388	777	1,200	1,699	2,540	3,164	3,375	...

Table A.5. NUMBERS OF DIFFERENT TYPES OF INSTITUTIONS OF HIGHER EDUCATION, 1957–58/1966–67

	Faculties	
	1957–58	1966–67
Arts and letters	7	9
Natural sciences and mathematics	9	5
Engineering	15	38
Agriculture and forestry	7	9
Veterinary science	3	3
Political science	–	2
Economics	5	10
Law	5	9
Medicine	6	8
Dentistry	1	2
Pharmacy	2	2
Total	54	97

	Colleges	
	1959	1966–67
College of physical training	1	4
Teacher training college	–	3
Engineering college	1	2
College of business administration	1	2
College of administration	1	1
Political science college	–	2
College of agriculture	–	1
College of social work	–	1
Total	4	16

Two-year Post-secondary Schools

	1956–57		1966–67
Teacher training	16	Teacher training	40
Maritime	1	Engineering	37
Economics	2	Agriculture	10
Administration	4	Social work	6
Various medical	9	Economics	19
Social workers	2	Social and political science	2
		Statistics	2
		Law and administration	7
		Medicine	7
		Social workers	5
		Social service personnel	1
		Personnel officers	2
		Production organisers	1
Total	34	Total	139

Table A.6. CHARACTERISTIC DATA – INDEXES
1957–58/1966–67

	1957–58 = 100		1962–63 = 100	1963–64 = 100	
	1962–63	1963–64	1966–67		
Number	236.3	236.3	102.7	102.7	
Total enrolments	193	193	121.7	121.7	Downward trend
Full-time enrolments	150	150	125	125	
Part-time enrolments	446	446	117	117	Downward trend
Teachers	207	220	119	112	
Auxiliary teaching staff	173	194	107	98	
Total first-year enrolments	225	233	129	129	
Full-time first-year enrolments	170	170	134	134	See 1962
Part-time first-year enrolments	423	448	114	107	
Number of graduates	273(62)	307(63)	126(66)	112(66)	
Percentage of graduates in total enrolments	123(62)	140(63)	107(66)	96(66)	Base-year 1957
Average duration of study (1 year)	84(62)	90(63)	97(64)	122(65)	"
(3 years)	83	85	75	95	"
(4 years)	96	95	91	93	"
(5 years)	93	97	94	89	
				105.4	
FACULTIES	174.1	170.3	103.1	112	
Total enrolments	153	143	105	117	Downward trend
Full-time enrolments	133	126	111	90	
Part-time enrolments	295	264	81	109	Downward trend
Teachers	184	202	120	98	Upward trend to 1962
Auxiliary teaching staff	160	170	104	116	Upward trend to 1966
Total first-year enrolments	161	147	106	133	Downward trend
Full-time first-year enrolments	140	129	122	74	
Part-time first-year enrolments	253	223	65	91(66)	
Number of graduates	189(62)	201(63)	96(66)		
Percentage of graduates in total enrolments	100(62)	113(63)	97(66)	86(66)	

Table A.6. (cont'd)

	1957–58 = 100		1962–63 = 100	1963–64 = 100
	1962–63	1963–64	1966–67	
COLLEGES				
Number	16,000*	17,000*	100	100
Total enrolments	1,409*	2,030*	160	111
Full-time enrolments	875*	1,233*	157	111
Part-time enrolments	14,833*	21,600*	159	109
Teachers	2,153*	2,940*	147	107
Auxiliary teaching staff	812*	887*	113	104
Total first-year enrolments	2,095*	3,630*	200	116
Full-time first-year enrolments	942*	1,705*	263	145
Part-time first-year enrolments	52,250*	87,350*	152	91
Number of graduates	1,300*	1,213*	129	138
Percentage of graduates in total enrolments	109	83	66	87
TWO-YEAR POST-SECONDARY SCHOOLS				
Number	315	311	100	100
Total enrolments	395	441	159	143
Full-time enrolments	244	283	170	145
Part-time enrolments	800	866	147	136
Teachers	253	254	116	116
Auxiliary teaching staff	302	457	132	90
Total first-year enrolments	446	517	158	134
Full-time first-year enrolments	268	339	180	150
Part-time first-year enrolments	737	853	145	125
Number of graduates	377	416	155	141
Percentage of graduates in total enrolments	92	81	81	86

* Not meaningful due to small numbers in base year.

Diagram A 1

1957/58

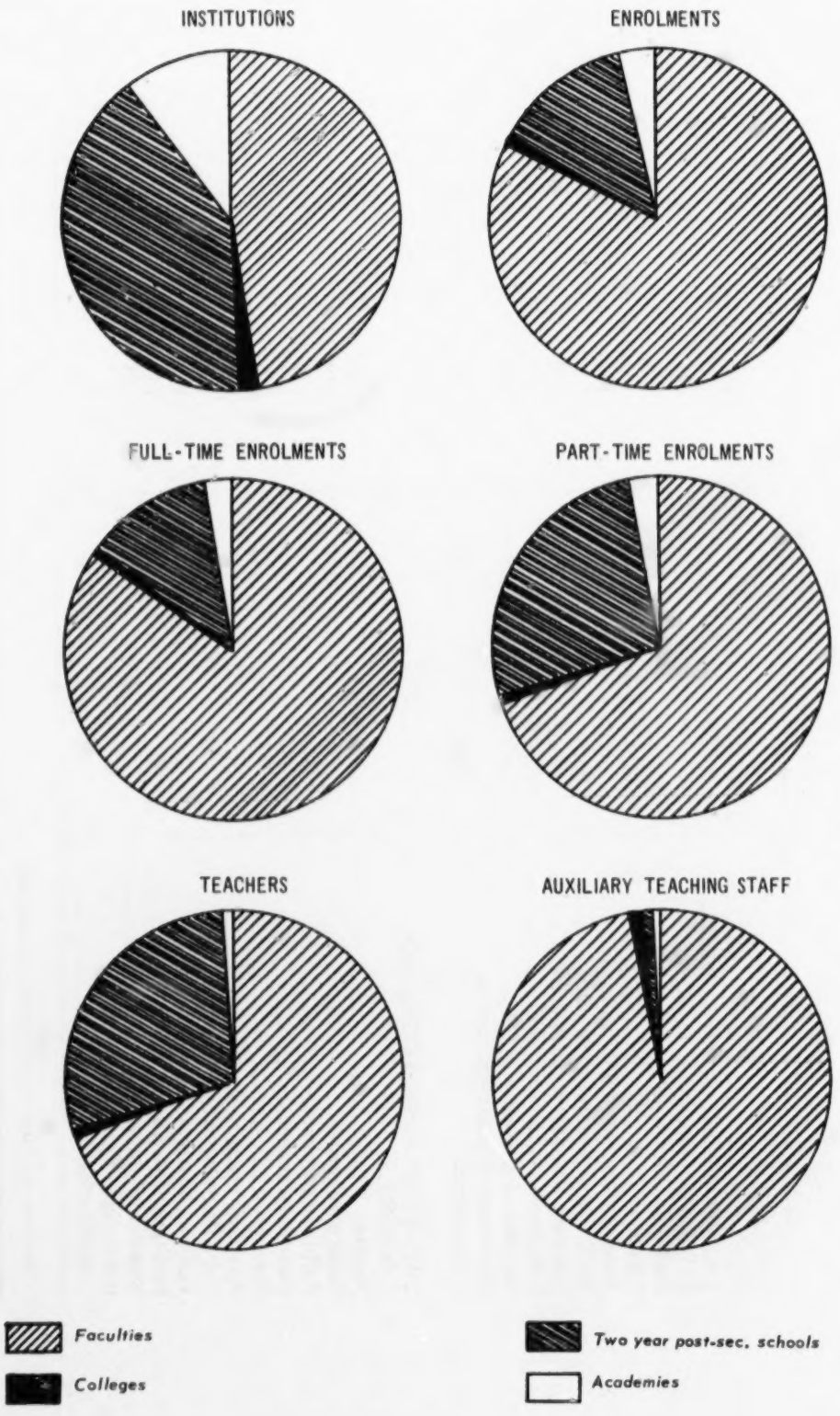


Diagram A2

1962/63

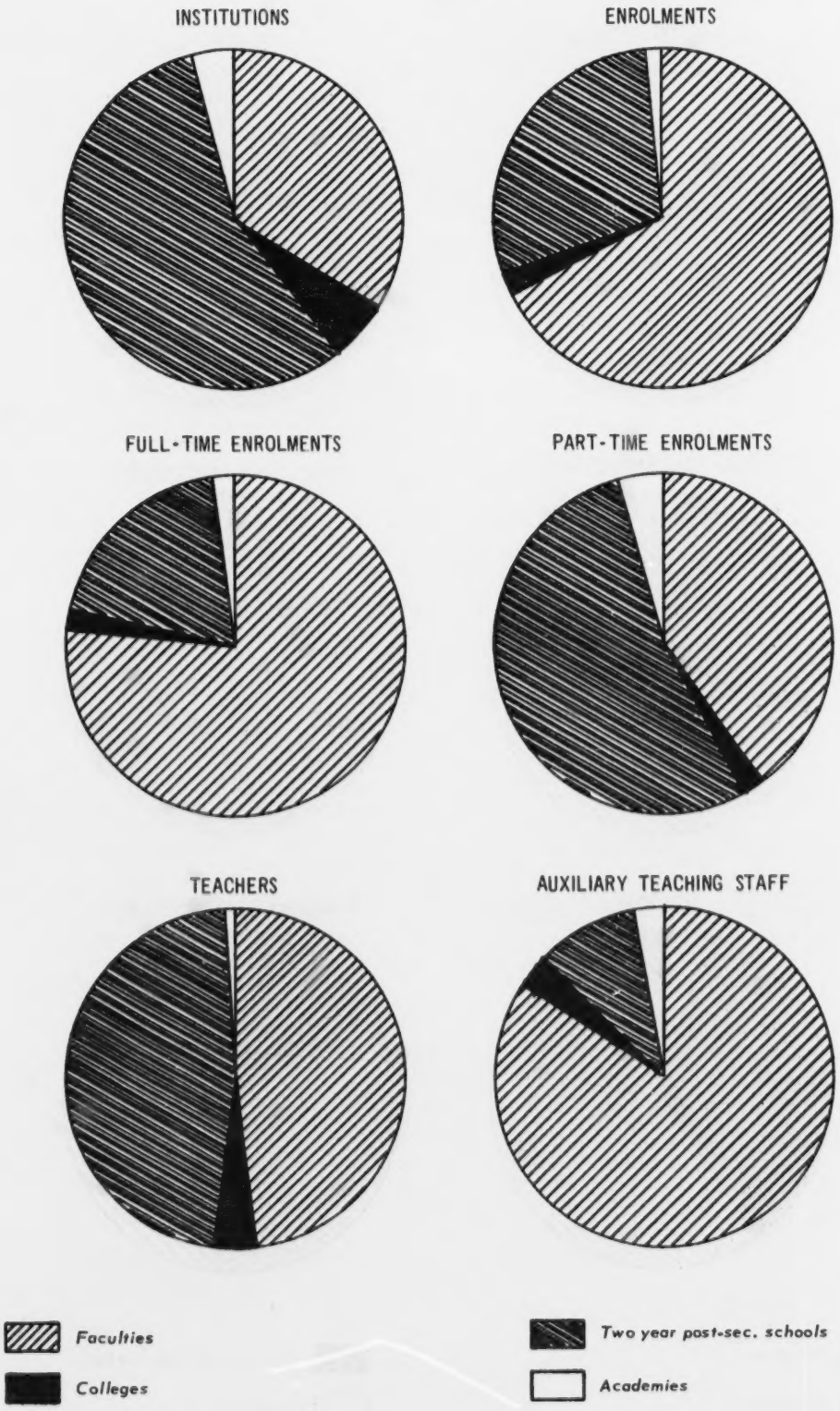
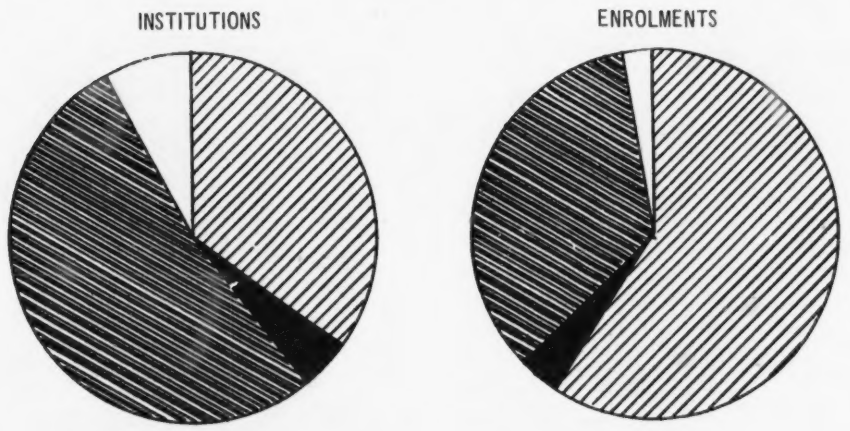


Diagram A3

1966/67



EXTRACTS FROM THE LAW ON HIGHER EDUCATION, 1960

I. GENERAL PROVISIONS

Article 1. Higher education can be acquired through study at Faculties, Colleges, Art Academies and Two-year Post-secondary Schools. The Universities and certain independent scientific institutions may provide and carry out certain forms of higher education.

. . .

Art. 3. Faculties, Colleges and Art Academies shall educate students in the methods of scientific work and artistic creation, and shall be responsible for training the rising generation of scientists. Their main concern shall be the organisation and promotion of scientific work as well as the education of scientific staff.

Colleges may be assigned appropriate scientific tasks according to their aims and duties and the range of fields in which they provide specialized education.

Scientific and academic freedom shall be guaranteed in higher education.

. . .

Art. 6. All citizens shall be entitled on equal terms to enrol at institutions of higher education, to acquire specified standards of education and knowledge, professional posts and academic and scientific status.

. . .

Art. 8 A University is an association of institutions of higher education, with full legal rights.

The Statutes of tne University shall determine the conditions upon which an institution of higher education may be admitted into or may withdraw from the University Association.

The University Council shall decide on the admission of such institutions, but the decision on withdrawal shall be confirmed by the Council of the Work organisation and the Council of the Organisation itself, subject to the conditions and procedure specified in the Statutes.

Art. 9. Universities shall be established under the General Law on Universities. A proposal to establish a University shall require the support of not less than three Faculties, Art Academies or Colleges. Before the Law establishing the University is introduced, the various social and political organisations in the relevant territory shall be consulted.

. . . . . .

V. PROFESSORS AND TEACHING STAFF OF INSTITUTIONS OF HIGHER EDUCATION

Art. 69. The teaching staff in the institutions shall be as follows:
Professors
Associate Professors
Assistant Professors
Senior Lecturers
Lecturers
College Professors and Lecturers.

. . .

Art. 74. Candidates for the appointment of Professor should have a Doctor's degree and should show exceptional ability for lecturing. They should give proof of recognized scientific achievements of a high standard, published works or other notable contributions to learning, of positive influence in the development of scientific thought and practice.

Candidates for appointment as Associate Professor shall hold a Doctor's degree and shall show distinguished ability for lecturing. They shall give proof of significant scientific or professional work.

Candidates for appointment as Assistant Professor shall hold a Master's degree or a specialist degree. They shall be leading specialists in their own field and shall give proof of ability for independent teaching.

Candidates for appointment as Senior Lecturer shall have completed their Faculty education. They shall give proof of substantial professional publications and several years' teaching experience or professional achievement. They shall show expresss ability for independent teaching.

Candidates for appointment as Lecturer shall have completed their Faculty education and shall be acknowledged experts in their own field; they shall have practical experience and shall show ability for teaching and student contact.

. . .

Art. 78. Teaching staff and auxiliary teaching staff of institutions of higher education shall be appointed by open competition.

Notice of competition shall be officially published in *Narodne novine* ("The People's News") and otherwise as may be appropriate.

The time limit for the submission of applications shall be not less than one month and not more than six months after the date of notice.

Particulars of relevant scientific and professional work and other relevant achievements in the appropriate field and the *curriculum vitae* of candidates shall be published as specified in the statutory regulations.

Art. 79. The teaching staff of institutions of higher education shall be appointed on the report of the Selection Board, which shall consist of not less than three members of the same grade as, or a higher grade than, that of the appointment to be made, two of whom shall come from the same field as that in which the appointment is to be made, and the others from related fields. The Selection Board shall be nominated by the Faculty Board, who shall fix the time limit for their report. The members of the Selection Board shall be distinguished practical experts from the institution in which the appointment is to be made or from other institutions of higher learning or science. For the appointment of a Professor, it shall be compulsory for one member of the Selection Board to come from another institution of higher learning.

Art. 80. Professors shall be elected by the Staff Teaching Board. All Professors and Associate Professors shall take part in the election of Professors. All teaching staff of the institution concerned shall take part in the election of other teaching staff.

Art. 81. The Faculty Board shall consider the report and proposal of the Selection Board and shall examine the qualifications of the candidates and their suitability for the post in question.

The Faculty Board may ask the Selection Board for further particulars or may obtain them from other sources. The Faculty Board shall decide on the basis of the report and proposals of the Selection Board.

If the Faculty Board finds itself unable to make a sound choice it may appoint another Selection Board to make a fresh report and proposals.

Art. 82. The election of teaching staff shall be confirmed by the Council of the institution of higher education. If the Council does not confirm the election it shall give full reasons for its decision.

Art. 83. Any candidate who deems that the regulation procedure has not been followed or that his rights have been violated shall have a right of appeal to the authority responsible for the legality of the institution of higher education in question.

. . .

Art. 96. Institutions of higher education shall be governed by the members of the Council of the Working Organisation and the other self-government bodies elected and removed by it.

Students shall also participate in the self-government of the institution. Members of socio-political associations and other working organisations shall participate in dealing with certain matters.

Art. 97. Members of the Council of the Working Organisation of the institution of higher education shall decide directly on matters specified by the Statutes of the institution. They shall exercise their rights of self-government directly through assemblies or other procedure specified in the Statutes.

Art. 98. The self-government bodies which govern institutions of higher education through the Council of the Working Organisation shall be the Council of the institution, the Managing Board, the Faculty Board and the Dean (or Director).

The Statutes of the institution shall specify the matters which fall within the competence of the Council of the institution and upon which it can decide after discussion in the Council of the Working Organisation, or after discussion in students' Assemblies. The Statutes may provide other organs for specific purposes.

The Council of the Institution shall consist of:

- members elected from among the members of the Council of the Working Organisation
- student members
- members nominated by the socio-political associations and other appropriate organisations.

The Statutes of the institution shall specify the number of members of the Council and the numbers to be elected by the Working Organisation and the students' organisation and the mode of election. They shall also specify which socio-political associations and other organisations shall nominate representatives to the Council.

. . .

Art. 101. The Council shall decide on all questions of general importance affecting the organisation and work of the institution, the living and working conditions of students, and any other matter specified by law or by the Statutes of the institution.

It shall adopt the Statutes of the institution, the financial plan and annual balance sheet; it shall confirm all appointments to the teaching staff and auxiliary teaching staff, and shall, in general, regulate the affairs of the institution pursuant to the law and the Statutes.

Art. 102. Representatives of the socio-political associations shall participate in decisions on the Statutes of the institution, on curricula, on the confirmation of appointments, on the election of the Dean or Director and any other questions specified in the Statutes of the institution.

Student representatives on the Council shall not take part in discussions or decisions on staff salaries.

Art. 103. In institutions of higher education where it is not necessary to elect a Council, the representatives of the socio-political associations and of the students shall be entitled to discharge their rights and duties as members of the Working Organisation.

Art. 104. The Managing Board shall consist of members chosen from the Working Organisation and from among the students. The total number of members and the number of students shall be specified by the Statutes of the institution. The Dean or Director shall be an *ex officio* member, but shall not be the Chairman.

Art. 105. The Managing Board shall make decisions on the financial, material and technical conditions necessary to ensure proper teaching and scientific work in the institution concerned. It shall prepare any general schemes or documentation required by the Council and shall execute the decisions of the Council and shall deal with such other matters as may be specified by law or by the Statutes. The legal capacity and competence of the Managing Board shall be defined by the Statutes.

Art. 106. The Faculty Board shall consist of all the teaching staff of the institution and a number of auxiliary teaching staff. The number and the mode of election shall be specified by the Statutes. The Dean or Director shall be the Chairman of the Board and shall convene meetings.

Art. 107. The Faculty Board shall discuss and determine all questions of the organisation and conduct of teaching and scientific work; it shall make proposals for syllabuses and curricula and shall select the teachers and staff of the teaching departments. It shall report to the Council its views, opinions and proposals on any question specified by law or by the Statutes.

Art. 108. Student representatives shall participate in the work of the Faculty Board on the discussion of questions relating to the organisation of teaching, examinations and other matters affecting study, with the right to speak and to express their views and proposals. The method of their participation shall be specified by the Statutes.

Art. 109. Decisions on the appointment of teachers and staff shall require a majority of all the members of the Faculty Board (i.e. of the whole teaching staff). Other decisions shall be by a majority of the votes of the members present, provided that there is a quorum.

Art. 110. The Dean or Director shall be directly responsible for conducting the affairs of the institution; he shall be its legal representative in all dealings with third parties; he shall be responsible for executing the decisions of the Council, Managing Board and Faculty Board. He shall be in charge of all the teaching and scientific work of the institution and shall be responsible for working discipline and for the discharge of the obligations of the institution. He shall have all the rights, duties and authority conferred by law on the Director of a Working Organisation.

Art. 111. The Dean or Director shall be elected by the Council from among the Professors of the institution for a term of two years. The procedure for the election and removal of the Dean or Director shall be specified in the Statutes.

Art. 112. The Council of the institution shall, once a year, or more frequently, if necessary, call a *General Assembly* of the teaching staff, auxiliary teaching staff and students and shall present a report on the work and state of the institution. The procedure for the General Assembly shall be specified in the Statutes.

Art. 113. The University is an association of institutes of higher education; it shall have the following tasks;

- to ensure the promotion and uniformity of teaching and scientific work in the institutions within its sphere; to organise inter-disciplinary co-operation among such institutions and other related organisations;
- to organise, independently, or in agreement with the institutions of higher education, specialized studies for the promotion of science, or other higher education studies in disciplines in which teaching is not provided, or is not provided on a sufficient scale, by the individual institutions;
- to found scientific and other institutions and services to meet the needs of the institutions within its sphere;
- to arrange for the publication of textbooks, manuals and other publications needed by students;
- to be generally responsible for all questions relating to the students, teachers and activities of the institutions of higher education within its sphere;
- to found special institutions or services for the financial, medical and material welfare of students (halls of residence, refectories, etc.) and to improve the working conditions of teachers (to build living quarters, etc.);
- to represent the institutions of higher education in Yugoslavia and abroad;
- to conduct any other activity of common interest to the institutions of higher education pursuant to law and to the Statutes of the institutions and of the University.

Art. 114. The Statutes of the University shall specify the tasks and organisation of the University, the rights and obligations of the institutions of higher education in the running of the University, the method of election, responsibilities and competence of the governing bodies; they shall specify common provisions for studies, students and teachers, pursuant to the Statutes of the institutions of higher education and on the Working Council of the University and on other matters affecting the University and its associated institutions. The Statutes of the University shall be debated by the Community Assembly of the Territory in which the University is situated and shall be confirmed by the Assembly of the Republic.

Art. 115. The foundation and activities of the University shall be financed by the socio-political associations and the institutions of higher education which form the University and by working organisations.

The institutions of higher education which form the University shall finance those of its activities which are in their interest.

The amount of remuneration for activities and services shall be determined in agreement with the bodies providing common funds and the institutions of higher education.

Any dispute as to the amount and conditions of financing shall, at the request of the parties, be determined by the Community Assembly.

Art. 116. The University shall be governed by the University Council and the Rector or Chancellor.

Art. 117. The University Council shall consist of:

- members nominated by the institutions of higher education belonging to the University
- members chosen by the students of the institutions belonging to the University
- members nominated by the Parliament or Assembly of the Republic
- representatives of the Commune and District Assembly in which the University is situated
- representatives of the related socio-political and working organisations and associations
- the Rector and the Pro-Rector *ex officio.*

The Statutes of the University shall specify the number of representatives of the institutions belonging to the University, the number and method of election and removal of student representatives, the number of Community and District Assembly representatives and the socio-political and working associations and organisations to be represented and the number of their representatives. Council members shall be elected for a term of two years.

Art. 118. The University Council shall propose the Statutes, financial plan and annual balance sheet and shall decide all questions specified by law or by the Statutes of the University.

Art. 119. The University Council shall elect its own Chairman from among its members.

Art. 120. The University Rector shall represent the University in all its dealings with third parties and shall execute the decisions of the Council pursuant to law and the Statutes.

The University may elect a Pro-Rector.

The term of office of the Rector and the Pro-Rector shall be two years. They shall be elected by the University Assembly from among the Professors of the institutions belonging to the University.

Art. 121. The University Council shall, once a year and more often if necessary, call a General Assembly of the teaching staff, auxiliary teaching staff and students of the University. It shall discuss questions of higher education, scientific work and any other question affecting the institutions and students of the University. The Statutes of the University shall specify the detailed organisation and procedure of the Assembly.

Art. 122. The laws and regulations on the self-government of working people in the governing bodies of the Republic shall apply, as appropriate to the working people in the Working Organisation of the University.

OECD SALES AGENTS
DÉPOSITAIRES DES PUBLICATIONS DE L'OCDE

ARGENTINE - ARGENTINE
Editorial Sudamericana S.A.,
Humberto 1º 545, BUENOS AIRES.

AUSTRALIA - AUSTRALIE
B.C.N. Agencies Pty, Ltd.,
178 Collins Street, MELBOURNE, 3000.

AUSTRIA - AUTRICHE
Gerold & Co., Graben 31, WIEN 1.
Sub-Agent : GRAZ : Buchhandlung Jos. A. Kienreich, Sackstrasse 6.

BELGIUM - BELGIQUE
Librairie des Sciences
76-78, Coudenberg, BRUXELLES 1.
Standaard Wetenschappelijke Uitgeverij
Belgiëlei 147, ANVERS.

CANADA
Queen's Printer - L'Imprimeur de la Reine.
OTTAWA.

DENMARK - DANEMARK
Munksgaard Boghandel, Ltd., Nörregade 6
KOBENHAVN K.

FINLAND - FINLANDE
Akateeminen Kirjakauppa, Keskuskatu 2,
HELSINKI.

FORMOSA - FORMOSE
Books and Scientific Supplies Services, Ltd.
P.O.B. 83, TAIPEI,
TAIWAN.

FRANCE
Bureau des Publications de l'OCDE
2 rue André-Pascal, 75 PARIS 16e
Principaux sous-dépositaires :
PARIS : Presses Universitaires de France,
49 bd Saint-Michel, 5e
Sciences Politiques (Lib.). 30 rue Saint-Guillaume, 7e
13 AIX-EN-PROVENCE : Librairie de l'Université.
38 GRENOBLE : Arthaud
67 STRASBOURG : Berger-Levrault.

GERMANY - ALLEMAGNE
Deutscher Bundes-Verlag G.m.b.H.
Postfach 9380, 53 BONN.
Sub-Agents : BERLIN 62 : Elwert & Meurer.
HAMBURG : Reuter-Klöckner ; und in den massgebenden Buchhandlungen Deutschlands.

GREECE - GRECE
Librairie Kauffmann, 28, rue du Stade,
ATHÈNES-132.
Librairie Internationale Jean Mihalopoulos
33, rue Sainte-Sophie, THESSALONIKI.

ICELAND - ISLANDE
Snæbjörn Jónsson & Co., h.f., Hafnarstræti 9,
P.O. Box 1131, REYKJAVIK.

INDIA - INDE
Oxford Book and Stationery Co. :
NEW DELHI, Scindia House.
CALCUTTA, 17 Park Street.

IRELAND - IRLANDE
Eason & Son, 40-41 Lower O'Connell Street,
P.O.B. 42 DUBLIN 1.

ISRAEL
Emanuel Brown,
35 Allenby Road, and 48 Nahlath Benjamin St.,
TEL-AVIV.

ITALY - ITALIE
Libreria Commissionaria Sansoni
Via Lamarmora 45, 50 121 FIRENZE.
Via P. Mercuri 19/B, 00 193 ROMA.
Sous-dépositaires :
Libreria Hoepli, Via Hoepli 5, 20 121 MILANO.
Libreria Lattes, Via Garibaldi 3, 10 122 TORINO.
La diffusione delle edizioni OCDE è inoltre assicurata dalle migliori librerie nelle città più importanti.

JAPAN - JAPON
Maruzen Company Ltd.,
6 Tori-Nichome Nihonbashi, TOKYO 103.
P.O.B. 5050, Tokyo International 100-31.

LEBANON - LIBAN
Redico
Immeuble Edison, Rue Bliss, B.P. 5641
BEYROUTH.

LUXEMBOURG
Librairie Paul Bruck, 22, Grand'Rue,
LUXEMBOURG.

MALTA - MALTE
Labour Book Shop, Workers' Memorial Building,
Old Bakery Street, VALLETTA.

THE NETHERLANDS - PAYS-BAS
W.P. Van Stockum
Buitenhof 36, DEN HAAG.
Sub-Agents : AMSTERDAM C : Scheltema & Holkema, N.V., Rokin 74-76. ROTTERDAM : De Wester Boekhandel, Nieuwe Binnenweg 331.

NEW ZEALAND - NOUVELLE-ZELANDE
Government Printing Office,
Mulgrave Street (Private Bag), WELLINGTON
and Government Bookshops at
AUCKLAND (P.O.B. 5344)
CHRISTCHURCH (P.O.B. 1721)
HAMILTON (P.O.B. 857)
DUNEDIN (P.O.B. 1104).

NORWAY - NORVEGE
A/S Bokhjörnet, Akersgt. 41, OSLO 1.

PAKISTAN
Mirza Book Agency, 65, Shahrah Quaid-E-Azam,
LAHORE 3.

PORTUGAL
Livraria Portugal, Rua do Carmo 70, LISBOA.

SPAIN - ESPAGNE
Mundi Prensa, Castelló 37, MADRID 1.
Libreria Bastinos de José Bosch, Pelayo 52,
BARCELONA 1.

SWEDEN - SUEDE
Fritzes, Kungl. Hovbokhandel,
Fredsgatan 2, STOCKHOLM 16.

SWITZERLAND - SUISSE
Librairie Payot, 6, rue Grenus, 1211 GENÈVE, 11
et à LAUSANNE, NEUCHATEL, VEVEY, MONTREUX, BERNE, BALE, ZURICH.

TURKEY - TURQUIE
Librairie Hachette, 469 Istiklal Caddesi, Beyoglu,
ISTANBUL et 12 Ziya Gókalp Caddesi, ANKARA.

UNITED KINGDOM - ROYAUME-UNI
H.M. Stationery Office, P.O. Box 569, LONDON S.E.1.
Branches at : EDINBURGH, BIRMINGHAM, BRISTOL, MANCHESTER, CARDIFF, BELFAST.

UNITED STATES OF AMERICA
OECD Publications Center, Suite 1305,
1750 Pennsylvania Ave, N. W.
WASHINGTON, D.C. 20006. Tel : (202) 298-8755.

VENEZUELA
Libreria del Este, Avda. F. Miranda, 52,
Edificio Galipan, CARACAS.

YUGOSLAVIA - YOUGOSLAVIE
Jugoslovenska Knjiga, Terazije 27, P.O.B. 36,
BEOGRAD.

Les commandes provenant de pays où l'OCDE n'a pas encore désigné de dépositaire peuvent être adressées à :
OCDE, Bureau des Publications, 2 rue André-Pascal, 75 Paris 16e.
Orders and inquiries from countries where sales agents have not yet been appointed may be sent to
OECD, Publications Office, 2 rue André-Pascal, 75 Paris 16e